REGULATION IMPACT STATEMENT

Carrier Licence Conditions (Networks supplying Superfast Carriage Services to Residential Customers) Declaration 2014

Overview and Introduction

Since the introduction of open competition in the Australian telecommunications market in 1997, policy-makers have grappled with the difficulties posed by making competition more effective. The market has been characterised by a single incumbent provider, Telstra, that was the former monopoly provider and owned a widespread 'local access network' (the network of lines connecting individual houses and businesses). Other market entrants found it difficult to compete against this established network by building their own competing fixed-line networks, because of the high fixed costs. Some networks were built, but tended to be concentrated in a few high-density areas in some cities. The local access network therefore has strong bottleneck characteristics.

In most areas of Australia competing providers instead sought access to Telstra's network to supply their own services. Access regimes are a well-established part of the regulator's toolkit. They are common in many jurisdictions overseas and ensure service-based competition. However, they create new sets of problems. In particular, the firm controlling the network has the incentive and ability to deny access to would-be competitors and potentially favour its downstream operations over those of its competitors. As a result, some of the negative characteristics of monopoly provision can be retained – in particular, prices that are higher than long-run production costs, which reduces demand and consumer benefits.

Assessments of the Australian telecommunications market have generally indicated that competition has not been as effective as might have been expected.[1] The competition issues focus around concerns that the incumbent was trying to raise its rivals costs by denying or delaying access, offering inferior quality services and charging prices that were higher than its own internal costs of supply. For example, the following issues have all been the focus of attention by the regulator, the Australian Competition and Consumer Commission (ACCC), at different times during the past fifteen years:

- price squeezes, with prices for wholesale services being higher than the incumbent's own retail prices;
- 'capping' of exchanges (the buildings where competitors connect their networks to the incumbent's network) to prevent competitors supplying services in areas with high demand for broadband;
- upgrades to broadband services being made available to the incumbent well in advance of being supplied to wholesale customers (i.e., competitors);
- commercially-sensitive information on end-users of wholesale customers being accessible to the incumbent's own retail staff; and

[1] The Competition Policy Review (*Draft Report September 2014,* p.118) made the point that the absence of structural separation in telecommunications, and reliance on third-party access to a vertically integrated provider's network, 'has seen less fixed-line retail competition in telecommunications than might have been expected'.

- widespread 'gaming' of regulatory processes and decisions to delay supply to competitors (or supply at regulated prices).

The rollout of the National Broadband Network (NBN) by NBN Co, and the structural separation of Telstra were intended, in part, to address these competition issues. Structural separation would reduce the incumbent's ability to favour its own retail operations. The NBN would similarly operate on a wholesale-only and non-discriminatory basis and, over time, operate the local access network, meaning that the competition concerns just outlined should not be replicated.

Following its election in September 2013, the Abbott Government confirmed its commitment to the structural separation of Telstra and the rollout of the NBN, although it has directed NBN Co to adopt a faster and more efficient multi-technology mix (MTM) in rolling out the network.

The superfast network rules

In March 2011 the Parliament enacted legislation (Parts 7 and 8 of the *Telecommunications Act 1997*) to require new networks that were to provide download speeds of more than 25 Mbps ('superfast networks') to residential and small business customers to operate on an open access, wholesale-only and non-discriminatory basis. The networks were also required to offer a Layer 2 bitstream wholesale service.[2]

These requirements were very similar to those applying to NBN Co and were intended to ensure that where such networks are built and operated that they provide consumers with a choice of competing retail service providers and the benefits of that competition, in terms of service innovations and lower retail prices. As such they sought to provide consumers with the same types of outcomes that they should enjoy on the NBN. This acknowledges that in many instances there is only one fixed line network in a market, giving its owner bottleneck control over access to communications consumers. Even where there are multiple networks in a locality (i.e. infrastructure competition), it may be that the operator of one network controls access to a customer and the customer's choice of retail provider, unless it is required to provide access to competitors.

The rules were also intended to create a more level regulatory playing field for NBN Co, enabling it to compete in the provision of infrastructure. As a result of this, NBN Co would also be better able to cross-subsidise loss-making services, as required by the previous Government's operational model for the NBN (the Government now intends that these loss-making services be funded by a transparent, competitively neutral industry subsidy scheme).

The superfast network rules are quite complex and involve a number of exclusions. They do not apply to:

- satellite, mobile or wireless networks;
- transit networks (for example, the backhaul lines connecting towns and cities);
- local access networks supplying services to large businesses or government agencies;

[2] 'Layer 2' is a commonly-used term in the industry and refers to a particular layer in the network. A Layer 2 service will not have the characteristics of a retail service but forms a 'raw' foundation on which a wholesale customer can build advanced retail services.

- stages in real-estate developments, where the network operator had not rolled out before 1 January 2011, but had rolled out in other stages of the same development prior to that date;
- superfast networks that existed before 1 January 2011;
- connections of premises in close proximity to superfast networks as they existed at 1 January 2011; and
- extensions of superfast networks by less than 1km.

These exemptions were intended to permit existing investments to continue without being subject to the new rules; in effect, earlier networks were 'grandfathered'. However, the intention was that new networks, and any substantial extensions of existing networks, targeting residential or small business customers should be subject to the new rules. The competition concerns outlined above largely apply to local access lines connecting such customers.

TPG Telecom's rollout

On 17 September 2013 TPG Telecom announced plans to deploy a fibre-to-the-basement (FTTB) broadband network to an initial tranche of 500,000 residential and small business premises in five mainland capital cities (Brisbane, Sydney, Melbourne, Adelaide and Perth). It plans to do so by using a fixed-line fibre network which it acquired in November 2009. The network will offer very high-speed digital subscriber line (VDSL) services that can support download transmission speeds of more than 25 mbps. In this case the network will offer a newer version of VDSL, known as vectored VDSL2. 'Vectoring' reduces noise between lines in a single cable bundle and thereby permits a service provider to offer higher speeds than other types of digital subscriber line (DSL) technology.

The premises to be connected will mostly be within multi-dwelling units or multi-premises business centres, which will currently have in-building cabling and existing services supplied over Telstra's copper network. TPG's rollout would, in effect, replace Telstra's network at the basement of the building (if the building owner agrees) and then connect to existing in-building cabling.

TPG commenced supplying retail services over this network in September 2014. It is offering a service that is clearly a superfast carriage service, with a download transmission speed of between 50 Mbps and 100Mbps service over the network.[3] TPG has said it will provide a wholesale service over its network, but has yet to offer one to industry. It is not operating on a wholesale-only basis.

The ACCC has examined the compliance of the TPG network with the requirements of Parts 7 and 8. The ACCC has concluded that the network is not captured by the rules because it was already capable of being used to supply superfast carriage services to small business customers before 1 January 2011 and is not being extended at any point by more than 1km.

In this case, TPG is rolling out a network through a loophole that the Government did not anticipate in 2011. TPG's network prior to 2011 did not target residential customers. It is now extending a business network to target such customers. This is a regulatory failure as the

[3] http://www.tpg.com.au/fttb.

legislation has not ensured that a superfast local access network targeting residential customers will operate on a wholesale-only and non-discriminatory basis.

There is the possibility that other carriers may propose networks such as that proposed by TPG. In discussions with the Government some service providers have indicated they may consider such a move, subject to future policy directions.

On 11 September 2014 the ACCC announced that it would commence a declaration inquiry into whether a superfast broadband access service like the type to be provided by TPG over its FTTB networks should be the subject of access regulation. The inquiry will consider whether regulation is necessary to ensure that consumers in TPG-connected buildings can benefit from competitive retail markets for high-speed broadband services.

In light of the decision by the ACCC, the Government is concerned that the competition objectives that Parts 7 and 8 were designed to achieve will not occur. Declaration by the ACCC of services on the TPG network and comparable networks will ensure that wholesale customers can gain access to a service, permitting service-based competition. However, declaration would not address the fundamental issue Part 8 is intended to address, namely the operator of a new superfast network having the incentive and ability to favour its own downstream retail activity over those of other competitors.

In this context on 11 September 2014, the Minister for Communications announced that he was proposing to consult industry on a new telecommunications licence condition, which would apply to all carriers. The licence condition would require owners of high-speed networks affected by the ACCC's declaration process to functionally separate their wholesale operations, and to provide access to competing service providers on the same terms as it is provided to their own retail operations. This licence condition would remain in place for two years. Effectively, the licence condition would seek to close the gaps in Parts 7 and 8 that have been identified by TPG's actions and the ACCC's decisions, while the Government considers longer-term options.

This regulatory impact statement addresses the Minister's proposal to consider a new licence condition.

Problem definition and the case for action

Defining the problem

Vertical integration or separation

A key issue is whether a vertically integrated network will result in negative outcomes in terms of prices, service quality and availability. Where that vertically integrated network forms an access bottleneck history has shown that competition may not be effective, and therefore may have delivered less consumer welfare than might have been expected. As noted above, there have been concerns in Australia that, because Telstra both owned the local access network and competed with its wholesale customers to supply retail services to the same end-users, it had the incentive and ability to favour its own downstream operations over those of its competitors.[4]

Vertical integration can supply the owner of a monopoly network with strong incentives to undermine retail-level competition. As noted by two Australian economists:

> After all, if there is a profit to be made at the retail level, the network owner would like to keep that profit for itself. If it is unable to do this by raising the network access fee to a monopoly level, then it will be tempted to undermine its retail competitors by reducing the quality of access services. As Australia's recent experience of telecommunications regulation shows, it is difficult, if not impossible, for a regulator to prevent such discrimination by an integrated network operator.[5]

Vertical separation rules have been used in other industries such as electricity and gas to address concerns about anti-competitive conduct between constituent parts of vertically integrated operations, when competing with other providers dependent on the vertically-integrated operator's network.

Imposing separation obligations on a provider would address these competition issues, but there is a trade-off in terms of reduced efficiency. Separation ensures that a firm's retail operations are set apart from its upstream network operations, and the more extensive and complete the separation, the greater the independence between retail and network operations. As a result, the greater the degree of separation the less ability the network operator has to discriminate in favour of its own retail arm. However, without regulatory intervention it is unlikely that market forces would lead a firm to separate its retail and network operations on a voluntary basis. Vertical integration can provide economic efficiency gains, especially in markets with what is known as 'asset specificity' – the need to invest in assets which cannot easily be adopted for an alternative use, as well as high levels of complexity or uncertainty in production processes or market conditions. These are characteristics of telecommunications markets.

[4] By contrast, the general access regime in part IIIA of the *Competition and Consumer Act 2010* prohibits access price structures which allow a vertically integrated access provider to set terms and conditions that discriminate in favour of its downstream operations, except to the extent that the cost of providing access to other operators is higher: see paragraph 44ZZCA(b).

[5] J. S. Gans and S. P. King (2010), 'Big Bang' Telecommunications Reform. *The Australian Economic Review* 43(2), p.182. A similar point was also made by the Productivity Commission (2001), *Telecommunications Competition Regulation*, Report No. 16, 21 September 2001, p.45.

Clearly, a vertically-integrated network can provide benefits to consumers. Both Telstra and Optus rolled out competing local access networks in the 1990s, albeit in limited areas of five capital cities. They used a technology known as 'hybrid fibre-coax' or HFC, which allowed them to supply high-speed broadband services and Pay TV. In this case, consumers were able to gain access to new kinds of services and competition between the two networks arguably restrained prices on those networks.

The HFC networks have been upgraded to support higher-speed services, and have been extended on a local basis, but the footprint has not been significantly broadened to cover more cities and towns or more suburbs within the cities. That the industry has developed in this way probably reflects technological advances, which have led industry to deploy fibre more deeply into the network and then extract higher speeds from copper lines and cables. It may also reflect a strategic decision by some providers that it was cheaper to obtain access to the copper network than to roll out a competing network or to upgrade an existing competing network.

As a result, in most of Australia there is only one local access network, and limited prospects that competing local access networks will be deployed outside certain high-density areas of some cities. Ironically, TPG's own network rollout, as far as the Government can ascertain, itself targets areas which already have competing HFC networks.

It is also important to point out that HFC networks have not been used to supply wholesale services. Telstra's existing copper network has been used to supply wholesale services in areas with HFC networks. Although it is technically feasible to supply wholesale services over HFC, it appears that wholesale customers preferred to seek access to the copper network because this was more widespread. To supply services on a national basis, they only had to purchase one set of equipment and operate under one set of technical specifications; having to operate a different set (or even both) in areas with HFC networks would have added to their costs of doing business.

The key point to make then, is that vertical integration of course delivers benefits; but where a vertically integrated provider controls a bottleneck, the Government has to determine whether those benefits could be greater if the provider's ability to discriminate against its wholesale customers is reduced.

Economists have long argued over the degree to which efficiency gains from vertical integration are outweighed by any efficiency gains from enhancing competition. It is fair to say that analytical work to date has been characterised by poor data and a difficulty in disentangling the actual impacts of integration or separation from the impacts of broader market forces. As a result, although a number of economists argue that vertical separation may lead to a reduction in consumer welfare, others argue the exact opposite, and none have as yet presented a convincing case.[6]

In this regard, there is some evidence from the United Kingdom which shows that fixed-line broadband prices for customers have reduced following separation of the incumbent and a

[6] For examples of the different perspectives see M. Cave and C. Doyle (2007), 'Contracting Across Separated Networks in Telecommunications. Lessons from Theory and Practice,' *Communications and Strategies* 68, pp.21-56; R. W. Crandall, J. A Eisenach and R. E. Litan (2010) 'Vertical Separation of Telecommunications Networks: Evidence from Five Countries,' *Federal Communications Law Journal* 62, pp.493-540; SPC Network (2009) *Equivalence of Input and Functional Separation: A Framework for Analysis*, pp.35-37.

shift to a non-discriminatory structure.[7] It is not clear if this reduction in prices led to an overall increase in consumer welfare, although it would appear to be perverse to argue that it did not; few public policy areas could proceed if a reduction in prices for consumers could not be taken as evidence for such welfare increases. Consequently, it indicates that consumers would be expected to benefit from a more competitive retail market through lower prices and an increase in demand for high-speed services.

A key issue, as the Vertigan review recognised, is the scale of the network to be separated. Imposing separation on a network that covers a limited number of premises could mean that the costs of the separation would outweigh the benefits. However, separation could be warranted with new networks so long as the result did not deter efficient investment.[8]

Vectored VDSL2 issues

While there is scope for multiple VDSL services to operate on a copper bundle without vectoring, technical and financial issues will mean that only one fixed-line vectored VDSL2 network is likely to be connected to multi-dwelling units and business centres. In a submission to the Independent Cost-Benefit Analysis and Review of Regulation in March 2014, the industry representative body, Communications Alliance, pointed out that any local access network supplying services using vectored VDSL2 will only function at its maximum capacity if there is a single operator:

> To reap the maximum performance benefits of vectoring and prevent service instability (e.g. dropouts) no more than one provider can offer vectored services within each cable sheath. This effectively means that there can only be one provider of VDSL2 network services in a node serving area or within a multiple dwelling unit or business centre development. This could be a wholesale-level provider, giving the opportunity for open access to enable other providers to offer services through the node.[9]

The technical performance of a vectored VDSL2 network is optimised if only a single carrier connects fixed-lines from a node to premises and then accesses internal cabling in those premises. There will be a clear advantage for any carrier that is the first to connect vectored VDSL2 to a multi-dwelling unit or business centre. That carrier would have first access to the internal cabling. Although a second carrier could conceivably seek to deploy vectored VDSL2 from the same location and use the same cable bundle, this would lead to a significant reduction in technical performance for all vectored VDSL2 networks running from that node. Building owners are unlikely to agree to allow a second carrier to connect equipment on this basis, because tenants are unlikely to want premises offering inferior quality services.

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[7] See J. G. Sidak and A. P. Vassallo (forthcoming), 'Did Separating Openreach from British Telecom Benefit Consumers?' *World Competition: Law and Economics Review* 38, pp.1-31. Sidak and Vassallo argue that long-run benefits may have been reduced, focussing in accordance with accepted economic theory on a reduction in network investment. It is curious, however, that they do not take into account the likely impact on investment of the Global Financial Crisis during the period in question (2008-2010) and also ignore significant network upgrades carried out by British Telecom since 2010.

[8] Independent cost-benefit analysis of broadband and review of regulation (2014), *Volume 1 – National Broadband Network Market and Regulatory report*, p.79.

[9] Communications Alliance (2014), 'Industry Paper on FTTN and VDSL2 Regulation.' Submission to the Independent Cost-Benefit Analysis and Review of Regulatory Arrangements for the NBN *Regulatory Issues Framing Paper*, p3.

A carrier could connect its own fixed-line network to a building to which another carrier already supplies vectored VDSL2 by deploying an alternative technology, such as HFC or FTTP. However, in this case it would face significant additional costs. The costs of deploying new fibre cabling within apartment buildings are between $450 and $500 more per apartment than deploying fibre to the basement and using the existing in-building cabling.[10] Any carrier deploying alternative network technologies may, therefore, be unable to recover its costs and compete with the vectored VDSL2 provider on price.

Given these issues, in a separate submission to the Independent Cost-Benefit Analysis and Review of Regulation, the ACCC noted that 'the effective use of *vectoring*, and the accompanying higher data rates, requires a sole (monopoly) supplier. There may therefore be a need to reconcile technical difficulties with the objective of promoting competitive outcomes'.[11]

A carrier that has connected a vectored VDSL2 network to premises does not have a statutory monopoly on access to those premises. However, the technical issues outlined above, and the resulting extra costs, mean that other service providers will be unlikely to duplicate the carrier's network. Furthermore, building owners or managers are unlikely to permit competitive installations where such installations could see a degradation in the quality of services being provided to tenants. In practice, therefore, where a carrier is the first provider to roll out a vectored VDSL2 network to a building it may enjoy an effective monopoly on the supply of fixed-line infrastructure to that building.

Even where there are competing customer access networks, each network will control access to the customers connected to it. In this instance, competing service providers would need access to be able to service customers. Even where there are competing networks, the number is expected to be small. In these instances, it is envisaged there would be greater benefits for consumers from promoting further competition at the retail level.

Tenants in the building would still have access to alternative technologies such as wireless or mobile broadband. Those technologies are adequate for many consumer needs, but wireless and mobile technologies may not provide sufficient speed or bandwidth for business uses, and residential users may also consider that the low download limits (and corresponding high cost of usage over the download limit) of mobile technologies is less attractive than fixed-line technologies (which currently include unlimited download plans).

Why ACCC declaration does not address the competition issues

The advantages that a vertically integrated provider has would be reduced if it chooses to, or is required to, supply wholesale services so that other providers can access its network and supply competitive services to end-users. It is possible that the ACCC's declaration inquiry could result in the ACCC determining that it would be in the long-term interests of end-users for carriers with vectored VDSL2 networks to supply a wholesale service to other retail providers. However, the declaration process can take up to one year to complete, and the result is uncertain.[12] Moreover, the declaration process cannot ensure that vectored VDSL2

[10] NBN Co (2013), *Strategic Review December 2013*, p.87.

[11] ACCC (2014), *ACCC Submission to the Independent Cost Benefit Analysis Review of Regulation Telecommunications Regulatory Arrangements Paper (s.152EOA Review)*, p.21 (emphasis in original).

[12] Under Part XIC the ACCC must first conduct an inquiry to determine whether or not to declare a service (section 152AL); this process can take up to six months. If the ACCC decides to declare a service, it may make

providers operate on a wholesale-only basis or supply wholesale services on a non-discriminatory basis.

Should the ACCC declare access to a service, the network operator ('the access provider') must supply that service to other carriers ('access seekers') in accordance with Standard Access Obligations (SAOs) set out in Part XIC of the *Competition and Consumer Act 2010* (CCA).

The SAOs require an access provider to supply a service and provide interconnection to an access seeker. In complying with the SAOs the access provider must 'take all reasonable steps to ensure that the technical and operational quality of the [service] is equivalent to that which the access provider provides to itself'.[13] This has generally been interpreted narrowly – for example, 'technical and operational quality' may not cover many aspects of non-price terms such as timing of supply and provision of information. Furthermore, 'equivalent' in this section of the CCA does not mean 'same'. Access providers are able to offer their own downstream operations quite different terms and conditions from those they offer to access seekers. The CCA therefore allows non-NBN Co providers to discriminate in favour of their own operations.

Industry views

Some industry members are concerned that a vertically integrated provider should not enjoy an effective monopoly over access to multi-dwelling units and business centres. iiNet argued that such networks should be wholesale-only and open access.[14] Macquarie Telecom and Optus likewise argued that the 1km exemption under Parts 7 and 8 of the Act should be scrapped.[15]

These views were reinforced in industry comments on the draft instrument. iiNet and other providers like Open Networks supported the continued application of the Part 7 and 8 rules to the market.

The crux of the issue, therefore, is what action needs to be taken to ensure that carriers who were not previously supplying a large number of superfast carriage services to residential and small business customers, but who are now proposing to do so, and who are not subject to Parts 7 and 8 of the Act, supply wholesale services over their networks, and do not favour their own retail operations over those of their wholesale customers.

The case for action

TPG's proposal is not for a limited rollout. It is for an initial rollout affecting up to 500,000 premises, which indicates that it may extend its network further (the Department estimates

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an access determination in relation to the service. It must make the access determination within six months after it commences a public inquiry into making the determination (section 152BCK).

[13] Paragraphs 152AR(3)(b) and 152AR(5)(d) of the *Competition and Consumer Act 2010*.

[14] iiNet (2014) *Cost-Benefit Analysis and Review of Regulatory Arrangements for the National Broadband Network. Telecommunications Regulatory Arrangements. Consultation Paper for the Purposes of Section 152EOA of the Competition and Consumer Act 2010. Submission by iiNet*, p.10.

[15] Macquarie Telecom (2014), *NBN Regulatory Review*, p.4; Optus (2014), *Submission in response to Review of Regulatory Arrangements for the National Broadband Network. Telecommunications Regulatory Arrangements*, p.21.

that TPG's networks are within 1km of about 1.8 million premises, of which about 1 million are multi-dwelling units or business centres). The rollout is of such a scale that a significant proportion of premises in Australia will be affected. There are currently about 10 million fixed-line services in operation in Australia, and TPG's rollout could therefore have an impact on at least five per cent of those services. Should other carriers elect to make use of the statutory 1km exemption, a substantial percentage of the population could then be covered.

There is therefore a risk that, in the absence of action, carriers could roll out vectored VDSL2 networks on a vertically integrated basis and re-open the competition issues that led in part to the decision to deploy the NBN and seek the structural separation of Telstra. As discussed above, the telecommunications access regime cannot currently prevent a vertically integrated provider from favouring its own retail operations.

In this context, it is worth emphasising that policy in this area does not start from a clean slate. The Government made an election commitment to complete the NBN as quickly and inexpensively as possible, and determined to retain the structural separation of Telstra and requirements on NBN Co to operate as a wholesale-only provider offering non-discriminatory access to services. With these settings in place, Government action needs to be targeted to ensuring that they continue to operate effectively.

Overview of options

Five possible options have been identified to respond to the problem identified, although they would not all address the issues posed by the rollout of superfast local access networks targeting residential and small business customers that are not subject to sections 141 and 143 of the Act.

Option 1. Do nothing. End-users will have access to superfast carriage services, whether delivered by NBN Co or by another carrier over a vectored VDSL2 network (as explained above, it is unlikely that end-users will be offered competing fixed-line networks, given the costs and technical issues involved). Where the NBN is rolled out, retail providers will have access to a wholesale-only network supplying services on non-discriminatory terms. Where another carrier has rolled out a vectored VDSL2 network, that carrier could either supply wholesale services by choice or as a result of any declaration by the ACCC.

Option 2. Repeal Parts 7 and 8 of the Act. This would allow open competition for the provision of infrastructure to all types of customer bases. Different providers would be free to roll out local access networks in different areas of the country, on a vertically integrated or wholesale-only basis. NBN Co could compete with these providers. Part XIC of the CCA would apply, so the ACCC could declare services if it considered doing so would be in the long-term interests of end-users.

A variation to this option would be to retain Part 8 of the Act (but remove the 1km exemption), and establish a process whereby carriers could seek authorisation from the ACCC to operate on a vertically integrated basis. For example, carriers could submit undertakings to the ACCC, which could set out how a carrier proposes to ameliorate any competition issues. If accepted by the ACCC, the undertaking would effectively replace the Part 8 obligations. This is effectively the option proposed by the Vertigan review, which saw it as an intermediate position between imposing unqualified separation and non-

discrimination requirements and any complete lack of these – the intermediate position would allow efficiency and competition issues to be balanced.[16]

Option 3. Apply the Act as intended. Amend the Act to remove the 1km exemption and references to a line that is 'capable of being used to supply' a superfast carriage service. New networks or local access lines were generally expected to be subject to Parts 7 and 8, and the Act should therefore be revised to capture the original intention of the legislation. A new date of effect would need to be set out (e.g. 1 January 2017). Part XIC would also continue to apply.

Option 4. The Minister could make a carrier licence condition (CLC). The CLC would apply to carriers that are not subject to sections 141 and 143 of the Act but supplying superfast carriage services to residential or small business customers (or residential customers alone). The CLC would require those carriers to establish legally- or functionally-separated retail and wholesale units, with the wholesale unit required to offer the same services to the retail unit, other carriers and service providers on the same terms and conditions. The CLC could also require carriers to offer a specific wholesale service. The CLC could be in place for a long or short period of time. It could be the mechanism of choice, or a transitional step to more permanent arrangements.

Option 5. Combine option 4 and another approach – a CLC could be an interim step while the Government considers longer-term arrangements.

A further option could include the addition of a levy mechanism as canvassed in the original Explanatory Memorandum for Parts 7 and 8 and proposed in recommendation 11 of the *NBN Market and Regulatory Report* prepared by the Vertigan panel. While the Government considers this option needs to be examined further, it has not been examined in detail as part of this process because the Government needs to take prompt action to resolve the issue at hand and such a levy mechanism would require significant analytical and developmental work.

Regulatory impacts of options

The following criteria have generally been considered in assessing the costs and benefits of the different options:

- Does the option address incentives for a vertically integrated operator to favour its own retail operations?
- Does the option impose divestment costs on a carrier?
- Does the option impose ongoing or one-off compliance costs on a carrier?
- Does the option promote the early rollout of infrastructure?
- Does the option promote longer-term competition, and thereby create opportunities for greater operational and organisational efficiency, innovation and price reductions?
- Does the option create regulatory distortions because carriers would not be subject to the same regulatory obligations?

[16] Op. cit., p.80.

The impacts of the different options are also considered against different types of stakeholders, including consumers and industry (including NBN Co). Any regional/metropolitan differences are also set out.

Option 1 – Do nothing

Option 1 has the following advantages:

- Carriers will be free to make investment decisions based on the current legal framework, rather than risk having investments overturned by changes to the law.
- It allows the independent regulator to determine whether and what access services should be supplied over vectored VDSL2 networks.
- End-users may gain access to superfast broadband services more quickly, either because a carrier connects a vectored VDSL2 network before the NBN, or NBN Co re-prioritises its rollout.
- There are no ongoing or one-off divestment or separation costs.

The option has the following disadvantages:

- The option cannot ensure that a vertically integrated operator will not favour its downstream operations. The degree to which any provider favours its own operations could limit the degree to which competition provides benefits to consumers.
    - For example, a vertically integrated access provider may have incentives to limit access seekers' access to information and innovative services, and to supply services at prices that favour its own operations.
- If NBN Co is to compete with vectored VDSL2 suppliers it will need to re-prioritise its existing rollout plans. It currently operates under a general direction from the Government that, where feasible, it should prioritise areas of greatest need in its rollout. The need to compete with vectored VDSL2 operators could mean that it needs to re-prioritise areas which have a less clear need for superfast carriage services, and that areas of greater need therefore must wait longer for these services.
- The option does not close a gap in the legislation that creates an artificial advantage for carriers over Telstra and other retail-only providers. Telstra is currently moving away from the supply of fixed-line services on a vertically integrated basis as required under its structural separation undertaking. However, while other providers operate on this basis, the same restrictions do not apply to other carriers, which will have incentives to create new effective monopolies where they have existing network assets.

Option 1 would not lead to any increase in compliance costs for industry on its own. An ACCC declaration inquiry could lead to changes in the nature of operations currently envisaged by carriers such as TPG, but this is an independent process.

Option 1 would have differing impacts on consumers. On the one hand, some consumers in some metropolitan areas will, as noted above, gain access to services more quickly. This could provide them with a benefit. On the other hand, some consumers could find themselves locked in to service provision through a single carrier – as noted above, their only alternative sources of supply would be mobile or wireless networks, which are unlikely to offer the same

performance standards as fixed-line. This could especially be the case in providing access to new buildings; it matches problems experienced in some greenfield estates, where consumers have found themselves unable to gain access to the service provider of their choice because only a single provider was contracted to supply services. Where there is a single provider consumers could find themselves unable to gain access to particular services they require, and there would also be few incentives for that provider to reduce prices or develop new service offerings.

Industry could experience difficulty in gaining access to wholesale services where a vertically integrated operator rolls out a network using the loophole in the law, and given concerns that the operator will favour its own retail operations benefits for consumers from competition may not be as great as if competition were more effective. NBN Co would be likely to face greater competition in some areas, and if this reduces its revenues this could place pressure on its ability to earn a return on its investment. However, it is unclear whether this would be the case, as NBN Co would be expected to compete 'for the market' in the same areas, noting it is a wholesale-only, open access platform.

As history shows that competing local access networks are generally only rolled out in some cities, there are unlikely to be any impacts in regional areas. (While competition in metropolitan areas could impact NBN Co's ability to cross-subsidise services in regional areas, this concern will be dealt with separately through the establishment of a transparent funding mechanism as part of the wider Vertigan response.)

Given the potential impacts of this option on competition and the artificial advantages created for carriers over Telstra and other retail-only providers, option 1's benefits appear to be less than its costs.

Option 2 – Repeal Parts 7 and 8 of the Act

Option 2 has the following advantages:

- It removes restrictions on carriers that make those carriers' investment decisions more complex. Carriers could be free to operate their own networks on a vertically integrated or wholesale-only basis as they saw fit. This is likely to restore incentives for investment in competitive local access networks targeting residential and small business customers.
- Such investments would allow carriers to compete more effectively with NBN Co, which would provide NBN Co with greater incentives to operate efficiently, innovate and provide services promptly.
- The option would also allow any efficiency benefits from vertical integration to be captured. In particular, vertically-integrated carriers may develop services and prices that reflect end-users' needs because they will have a more fundamental connection with end-users than a wholesale-only operator would have. There is a risk that wholesale-only entities can experience problems with the coordination of investment decisions with end-users' needs. That said, coordination problems can be addressed through ongoing mechanisms for consultation between the wholesale-only provider and access seekers who do have direct relationships with end-users, and through flexible contracting arrangements that permit access seekers to request new products.

(Such mechanisms also mean the competitive risks of vertical integration can be addressed.)

- Option 3 does not confer any significant regulatory costs on industry. There may be some one-off costs as industry adjusts its business and operational systems to reflect the change in law, for example where carriers are currently complying with Parts 7 and 8 and then wish to change their business models, but these are unlikely to be significant. In any event, under this option, it would be a commercial decision for a carrier to change its business model.
- There are no ongoing or one-off divestment or separation costs.

The disadvantages of option 2 are similar to those under option 1, but the option would also mean that, where carriers currently comply with part 8 of the Act, those carriers would no longer need to operate on a wholesale-only basis. This option could therefore encourage more network operators to re-integrate, because they may consider that they are more likely to achieve a higher return on their investments through operating on a vertically integrated basis. This option therefore could have the perverse result of ensuring that only NBN Co and Telstra are truly structurally separated, which therefore magnifies the fundamental policy concern that unequal obligations are imposed on a small subset of carriers.

If the Vertigan variation to this option (based on carriers submitting undertakings to the ACCC) were to be adopted, an additional layer of regulatory complexity and uncertainty would be set in place over and above the current arrangements. Carriers are likely to seek a more straightforward process, in which their operational choices are more clearly established and not subject to the whim of the regulator. That said, the variation to the option does provide a mechanism for any competition issues to be addressed up-front while allowing a carrier to retain any efficiency benefits of vertical integration and reduce the costs of divestment and separation.

Option 2's main weakness is that it would allow a vertically integrated provider to favour its own retail operations and create an unequal set of obligations on different carriers seeking to invest in infrastructure and market retail services. The option may therefore limit the effectiveness of competition where bottleneck infrastructure is rolled out (and as set out above, history shows that alternative local access networks are only rolled out in a limited number of areas, and the technical qualities of vectored VDSL2 may also mean that there will be a single provider of this technology in most if not all instances). In submissions on regulatory costings, some industry members considered that the benefits from option 2 would not be great, and would be countered by impacts on competition. It is unclear to what extent the efficiency gains from option 2 would be offset by the welfare losses from less effective competition; given that networks are likely to be rolled out in only a limited number of areas, and that the separation requirements under Part 8 in any event only affect a limited part of any service provider's operations, it is likely both that efficiency gains will in any event be fairly limited on a national scale, and that welfare losses will also be limited. On this basis, option 2 may be considered neutral.

The Vertigan variation to option 2 addresses the concerns about discrimination, but does add a new layer of uncertainty and regulatory complexity to investment decisions. As with the 'standard' option 2, however, impacts are likely to be limited given that competitive rollouts are likely to be limited to high-density areas of cities and legal separation obligations will only affect carriers targeting residential customers. The Vertigan variation may provide a

mechanism for balancing efficiency and competition issues over the longer term, but as it would require legislation to implement and should not be imposed on a retrospective basis it is only likely to be able to be effective during 2016 or later. When implemented the variation could be considered to provide a net benefit.

Option 2 may ensure that some customers receive services more quickly and at a lower price, though as noted above this would be restricted to customers in certain metropolitan regions, albeit with restricted choice of retail providers. There would be unlikely to be any discernible benefit in regional areas or even in outer metropolitan areas. Industry members would receive benefits from being free to structure their operations in a manner that provides greater internal efficiencies. NBN Co would most likely face greater competition, but would be expected to respond to it, which could also help reduce prices for consumers in areas where NBN Co faces competition. The Vertigan variation would, when implemented, provide lower efficiency benefits for industry (because they may still be required to undergo some separation and put in place non-discrimination measures), but to the extent that this makes competition more effective consumers may receive greater benefits than under the standard option 2.

Option 3 – Apply the Act as intended

Option 3 has the following advantages:

- The fundamental policy issues would be addressed – there would be no incentive for a carrier to seek to create an effective monopoly on local access where it has network assets, and no 'dual' system in which one set of obligations applies to Telstra but not to other carriers who may create effective monopolies.
- Any vectored VDSL2 networks would be wholesale-only and supply services on a non-discriminatory basis, because Part 8 of the Act would clearly apply as intended. Access seekers would have a level playing field and access to a sufficiently 'raw' wholesale service (a Layer 2 bitstream service) to develop innovative products for end-users.
- End-users would have access to a choice of retail providers, encouraging greater competition amongst service providers.

Option 3 has the following disadvantages:

- If carriers do not currently operate on a wholesale-only basis, option 3 would mean that they would have to structurally separate their operations in order to supply superfast carriage services to residential and small business customers. Carriers could face significant costs in divesting assets or business units, especially if the market were to take the view that any divestment was forced and therefore had the character of a fire sale. That said, the option provides a suitably long lead time (1 January 2017) for companies to adjust their operations.
- Separation costs could be significant. These would include establishing separate business, operational and IT systems, separating staff members and assets between the different businesses, negotiating supply contracts between the two businesses, establishing a new compliance regime to ensure that functions remain separate and establishing a new reporting framework. That said, the option provides a suitably long lead time (1 January 2017) to adjust their operations.

- To the extent that a requirement to operate on wholesale-only and non-discriminatory basis encourages carriers not to roll out networks in competition with NBN Co, this would deter carriers from seeking to roll out vectored VDSL2 networks before NBN Co (or as an alternative to NBN Co, for example in new developments). As a result, some end-users may not receive the benefits of high-speed broadband as quickly as otherwise (for example, because their premises are further down NBN Co's schedule).
- Legislation can take a long time to pass through the Parliament and there can be no certainty for industry about future regulatory arrangements until it sees the final form of the legislation. The option therefore does not provide short-term certainty for industry.
- The option does not address coordination problems caused by wholesale-only operators being cut off from end-users' needs, though as noted above this issue can be addressed through consultation and contractual mechanisms.

Option 3 would be more likely to restrict infrastructure rollouts targeting residential customers. To the extent that it does this it may limit benefits to customers such as lower prices and early access to new services, though such impacts would be limited to areas where such rollouts would be likely to have occurred. The option would, however, ensure that consumers would have a choice of service provider in these areas, and would not be locked in to a single provider. In this regard, the option is more likely to deliver service-based competition than the standard option 2.

The option would probably impose greater costs on industry than option 2, because not only would industry need to absorb costs from operating on a wholesale-only basis, but industry would not be free to extend existing networks grandfathered under the current law. Option 3 would also have the effect of constraining TPG Telecom's proposed rollout, which would need to be grandfathered at a point in time when new legislation could commence, creating further complexity and costs for TPG. However, to the extent that such networks were rolled out, consumers would enjoy the benefits of both higher speed broadband services and retail level competition.

Overall, the costs of option 3 could be quite significant but it should be emphasised that they are discretionary costs. Businesses will have a choice how to structure their operations. In other words, the regulatory costs of option 3 are only imposed if a carrier decides that it wishes to supply superfast carriage services to residential (and/or small business customers) on a vertically integrated basis.

Against these costs must be placed the benefits from ensuring that competition can develop adequately and that vertically integrated providers do not favour their own retail operations. Although those benefits are gained by access seekers, it should be noted that access providers who are required to operate on a non-discriminatory basis can continue to achieve profits from investments in network infrastructure. The benefits are difficult to quantify, but over the long term it could be argued that the benefits of imposing equitable arrangements that promote competition would include providing incentives for promoting innovation and lower overall prices for end-users.

Overall, the costs of option 3 would initially be higher than the benefits, though benefits would be delivered over the long-term. The option would not appear to provide as great a benefit as the Vertigan variation to option 2.

The regulatory burden measurement for this option is at Annex A.

Option 4 – Carrier Licence Condition

Option 4 has the following advantages:

- The fundamental policy issues would be addressed – there would be no incentive for a carrier to seek to create an effective monopoly on local access where it has network assets, and no 'dual' system in which one set of obligations applies to Telstra but not to other carriers who may create effective monopolies.
- It is less intrusive than option 3. A vertically integrated provider could continue to operate on a vertically integrated basis, but would have to establish separate entities within its corporate structure along with strong ring-fencing arrangements to ensure that it did not favour its own operations. A carrier could still face significant one-off adjustment costs, but would not face divestment costs.
- The option addresses the issue of vertical integration and ensures that access seekers will have access, on a non-discriminatory basis, to services. It is therefore more likely to deliver benefits in the long term, through enhanced competition, than either option 1 or option 2.
- A CLC could be set in place fairly quickly, meaning that industry would gain legal certainty in a short period of time. By contrast, legislation can take some time to pass the Parliament and there is less certainty as to what its final shape may be.
- Coordination problems caused by wholesale-only operators being cut off from end-users' needs would be less of an issue because all business units would still operate under a single corporate entity and therefore some of the efficiency benefits of vertical integration are preserved..

The disadvantages of option 4 are similar to those under option 3, in particular in relation to one-off separation costs, though these would be less significant because a carrier could continue to operate on a vertically integrated basis. Carriers may face initial costs in setting up legally separate retail and wholesale business entities and in establishing separate business, operational and IT systems for those entities so that the wholesale entity does not discriminate in favour of the retail entity. They could also face costs in reallocating their existing workforce and finding new directors for separated companies.

These costs are expected to be largely one-off in that, once adjusted, the systems should not need to be reset every year. There would be some ongoing costs from compliance with the arrangements, including workforce training and reporting to a regulator. It is not clear how great the costs might be; the overall quantum would depend upon the degree to which existing retail and wholesale systems are separated and the number and complexity of the systems. The costs would largely fall in the areas of differentiating business and operational systems, and also in establishing new compliance and reporting frameworks to ensure that the functions, staff and management of the two business entities are clearly separated.

In the past, the costs of introducing functional separation elsewhere in the world have been quite significant. For example, the functional separation of British Telecom was estimated to have cost that carrier £153 million, largely through establishing Openreach as a separate entity and setting up new equivalence systems. Similarly, the functional separation of Telecom New Zealand was estimated to have cost that carrier NZ$200 million.[17] However, in both of those cases the entity being separated was a highly integrated incumbent provider with national networks and many integrated lines of business developed over decades, with a wide mix of business and IT systems. The costs of imposing functional separation on a carrier with a much more limited scale and network are unlikely to be anywhere near these figures.

The Government also notes that major infrastructure providers are already required to be separated (i.e., Telstra, NBN Co) or are considering divesting local access networks (Optus). Only one provider, TPG Telecom, has announced it will roll out a substantial network targeting residential customers. Consequently, only that provider is likely to be effected significantly by option 4.

During consultation on the draft instrument smaller carriers noted that the costs of separation were excessive compared to the size of their business. One carrier, for example, noted it had only six staff and 1,500 customers, and that it would be difficult to create two separate entities. Other larger carriers noted that the separation costs could be material. One argued that the CLC could affect services in operation if it did not feel that it could comply with the CLC.

By contrast, another carrier argued that the separation costs would not be high. It pointed out that the majority of a carrier's networks would not be subject to regulation – for example, transit and backhaul networks and lines targeting business or government customers would be exempt from the rules.

In addition to exemptions for many aspects of a carrier's operations, the CLC could also lessen any burden on carriers by providing a transitional period before separation requirements took effect. For example, these could apply from 1 July 2015, meaning that a carrier would have time to adjust and would not need to terminate existing services.

Option 4 would be likely to deliver benefits for consumers by ensuring they are able to have a choice of competing retail providers. Service-based competition is also likely to put downward pressure on prices. For example, a carrier with an effective monopoly could charge $60 per month or more for a high-speed broadband service. If it were assumed that with wholesale access and retail competition, the price could be pushed down to $55 per month, this would represent a significant gain for consumers (6%)[18]. When this reduction is factored over a larger network the overall benefit becomes even more significant. For example, if a network covered 500,000 premises and had 80% take-up and retail competition led to a $5 per month reduction in price for consumers, the total saving per annum for end-users would be $24 million. Conversely, in the absence of retail level competition, this would be $24 million captured by the network operator. This sum does not take any account of the

[17] *Telecommunications Legislation Amendment (Competition and Consumer Safeguards) Bill 2010. Explanatory Memorandum*, pp.30-31.

[18] [To put such a price decrease in perspective, in its 2013-14 results announced on 3 December 2014, TPG indicated that its Consumer Broadband business had an underlying margin of 38% in 2013-14; see here, p.8]

savings from not having to rollout additional network infrastructure to compete, if indeed, this were economically viable.
With network rollouts only occurring in some areas of some cities, option 4's overall costs and benefits are likely to be restricted when compared to national operations. However, if vertically integrated providers are able to compete in those areas against businesses which are required to be structurally separated, those structurally separated providers could find themselves facing difficulties in competing effectively for two main reasons. Both NBN Co and Telstra have obligations which require them to operate on a national basis. Targeted infrastructure rollouts will naturally have a lower overall cost base than a national network and may therefore be able to charge much lower prices than their structurally separated competitors. However, those competitors need to be able to supply services in high density areas to gather sufficient revenues to fund their overall operations. If they have to lower prices they therefore could see a reduction in revenues, which challenges their ability to fund their regional obligations. Over the long term, therefore, pressure would be placed on services in regional Australia, which could lead to under-investment in those areas. (Thus a separate funding mechanism is being otherwise proposed by the Government in its response to the Vertigan review.) Option 4 will not prevent competition from taking place, but it does help level the playing field so that NBN Co and Telstra do not have a clear disadvantage in dealing with targeted rollouts in cities.

Over the long term, therefore, option 4 may deliver some benefits through facilitating national-scale service provision and investment. It may also, as with option 3, deliver benefits from ensuring equitable competition through a level playing field for retail providers. As noted under option 3, the benefits could involve fewer barriers to innovation and lower prices overall for end-users.

The greater benefits for industry that would be provided by option 2 need to be balanced against the potential reduction in benefits to consumers in a rollout area, in terms of less retail competition, and on a national scale. On this basis, option 4 could be considered to provide neutral to marginally positive benefits compared to costs.

Annex A outlines the regulatory burden measurement for this option.

Option 5 – Combine option 4 (short term) with long term legislative amendments

Option 5 simply recognises that the Government could choose to adopt a staged approach to the problems posed by the rollout of vectored VDSL2 networks on a vertically integrated basis. A CLC could set short-term arrangements while the Government develops the optimal long term solution. The CLC, in other words, would provide short-term certainty that a vertically integrated provider would not favour its own operations, while the Government determines its longer-term approach. That could be to repeal Parts 7 and 8 of the Act once the NBN is built and fully operational, or to retain Parts 7 and 8 but close down the 1km exemption or adopt the model proposed in recommendations 3 and 4 and/or 11 of the *NBN Market and Regulatory Report* by the Vertigan panel.

The compliance costs of this option would effectively be the same as those under option 4 – there would be one-off costs of establishing functionally separate businesses, and introducing systems to ensure non-discrimination. Extra costs would not be incurred if the law is later changed to permit carriers to submit 'vertical integration' undertakings under Part 8 of the Act (as suggested under option 2). However, if option 4 is adopted in the short term and

option 3 is adopted in the long term, then the overall level of cost for a carrier could be higher, because it may be required to undertake functional separation in the short term and potentially structural separation in the long term. Although the costs of this could be significant, against them must be placed the benefits from enhancing competition. Over the long term, those benefits are likely to outweigh the costs. However, these are matters that would be considered fully in moving to the long term solution.

The impacts of option 5 on stakeholders would depend on which particular approach is taken. If, for example, the decision were taken to have a CLC in place for two years with longer-term the current Part 8 rules (but with the 1km exemption removed), then there would be clear costs for industry, but also more effective retail competition long-term, which should mean benefits for consumers. If the decision were taken to have a CLC in place for two years and then move to the Vertigan variation to option 2 (the other major option before the Government), then there would arguably be lower costs for industry longer-term and similar benefits for consumers.

Consultation

There was extensive consultation in advance of the enactment of Parts 7 and 8.

As noted above, submissions in early 2014 to the Vertigan review generally supported a monopoly provider of vectored VDSL2 networks, but also supported that provider operating on a wholesale-only, non-discriminatory basis.

Under section 64 of the Act, before the Minister makes a CLC the Minister must provide a draft of the CLC to an affected carrier and invite the carrier to make a submission on the draft. The timeframe for the submission is 30 calendar days from the date the Minister provides the draft to the carrier. As a draft CLC on superfast carriage services could affect a number of carriers, on 14 October 2014 the Minister wrote to all licenced carriers in Australia, inviting submissions on the draft CLC. The Minister also issued a media release and the Department of Communications placed a copy of the draft CLC and the early assessment draft of the Regulatory Impact Statement on the Department's website.

Eighteen submissions were received on the draft CLC, and the Department also held discussions with the Australian Communications and Media Authority, the Australian Competition and Consumer Commission and the industry representative body, Communications Alliance, on technical and drafting matters. There was a diversity of views in submissions, but key themes centred on determining which types of networks should be exempt from the CLC; the nature of separation obligations and their likely costs; and technical issues with the proposed wholesale service set out in the CLC.
Smaller carriers, as well as some larger ones, submitted that separation costs could be material, especially given the short timeframe to comply with the instrument (the draft CLC proposed a commencement date of 1 January 2015). TPG and some other larger carriers argued that a CLC would impose an undue financial and administrative burden on it.

Other businesses argued that separation costs are not material and that stronger separation requirements could be imposed. Several pointed out that the overall impact of the CLC on industry would be limited because only one carrier, TPG, was attempting to use a loophole in the law.
Five carriers provided submissions on the regulatory burden measurement costings.

The Department consulted the Australian Communications Consumer Action Network. That organisation did not make a submission but noted that it considered it important for customers to have a choice of providers and for the underlying networks to be wholesale-only. It also stressed the importance of services being available on a national basis. No other consumer groups made submissions on the draft CLC.

In finalising the CLC, the Minister considered these submissions. A number of changes were made to clarify which networks would be exempt, the nature of the wholesale service to be supplied, and also to reduce potential costs arising from separation obligations. Any carrier subject to the CLC will be given an extra six months (until 1 July 2015) before separation applies to existing networks, and the CLC also clarifies that existing corporate entities and systems can be used in meeting the separation requirements. This would greatly reduce any ongoing annual costs. Furthermore, amendments to clarify that some residential networks and wholesale activities are exempt from the CLC will also reduce the burden of compliance on industry.

In relation to regulatory burden measurement costings, the Department of Communications considers that the overall one-off cost should be increased in recognition of the likely impact on at least one carrier, and changes to other inputs. However, the Government considers that annual costs will be limited. The CLC will in effect apply to one service provider. It already has separate companies and operational support systems that it has gained through acquiring those companies. Those companies already have largely separate staff. The main annual costs to it would therefore be to appoint one new director to one company (because currently it has one shared director across its wholesale and retail companies) and fewer than five management staff (changes to operational support systems are included in the one-off costs). The Department has estimated annual costs to the firm of 20 per cent of its one-off implementation costs. Following consideration of feedback on costings, the Department now estimates the total costs over ten years at $17.98 million. By comparison, the Department considers the potential gains from increased and effective competition at the retail level as a result of the proposed measures is likely to far exceed these costs, as illustrated by the example given on page 22.

Selecting the best option

The preferred approach is option 5. A CLC could be made in the short term and this addresses the fundamental policy issues and recognises the significant investments already made by the Government in the NBN and the structural separation of Telstra. The CLC would apply for a two-year period, and then the Government would adopt, in effect, the variation to option 2. New high-speed broadband networks targeting residential customers would be required to be structurally separated as a default, but industry would be able to submit undertakings to the ACCC containing functional separation and non-discrimination commitments. The ACCC could then authorise functional separation. This would preserve some efficiency benefits from vertical integration while also providing benefits for consumers from more effective retail competition. As outlined above, the variation to option 2 is likely to be marginally positive in terms of costs and benefits, and therefore option 5 would also have a marginally greater benefit than cost.

In the longer term, when the NBN is built and fully operational, the competition issues posed by vertically integrated providers rolling out local access networks that are effective

monopolies are less likely to be as significant. Access seekers would have the NBN as an open access fall back in areas where a vertically integrated provider overbuilds the NBN. Accordingly, at that time the Government will review the Part 8 rules.

Implementation and evaluation

Option 5 would be implemented by the Minister making the CLC, which takes effect from the day after it is registered on the Federal Register of Legislative Instruments. The CLC would be a disallowable instrument.

The CLC could be imposed for a limited period of time (two years) while the Government considers the optimal long term approach and develops appropriate legislation.

The Government would evaluate the effectiveness of the CLC, including the nature of any impacts on carriers and on end-users, through its regular monitoring of industry circumstances and liaison with carriers and regulators.

Annex A – Regulatory Burden Measurement

The regulatory burden measurement of the different options is set out in the table below.

Options	Preferred	Regulatory Burden Measurement
1: Status quo	No	Neutral
2: Repeal Parts 7 and 8 of the Telecommunications Act.	No	Substantive savings – carriers would no longer be required to implement structural separation of their wholesale and retail business units. This would lead to significant cost savings. The measure would have wider operational benefits for firms that integrate but also substantial impacts on fair and effective retail competition.
3: Apply Part 7 and 8 as intended by removing exemptions giving rise to regulatory asymmetries.	No	Substantive costs – carriers operating under exemptions would be required to structurally separate their wholesale and retail business units. This would incur costs depending on their degree of vertical integration and complexity of legacy IT systems. The measure would also have wider substantive countervailing benefits in terms of supporting fairer and more effective retail competition.
4: Make a Carrier Licence Condition to achieve regulatory symmetry (this is a faster-to-implement and less onerous version of Option 3). This will require functional separation of wholesale and retail business units.	No	Substantive costs – carriers operating under exemptions would be required to functionally separate their wholesale and retail business units. This would incur costs depending on their degree of vertical integration and complexity of legacy IT systems. The measure would also have wider substantive countervailing benefits in terms of supporting fairer and more effective retail competition, while allowing firms to be integrated.
5: Combine option 4 (short-term and would apply until 2017) with long term legislative amendments to repeal Part 7 and allow authorisation of functional separation under	Yes	Substantive costs – carriers operating under exemptions would be required to functionally separate their wholesale and retail business units. This would incur costs depending on their degree of vertical

Part 8		integration and complexity of legacy IT systems. The short timeframe reduces the number of businesses this would impact upon. The measure would also have wider substantive countervailing benefits in terms of supporting fairer and more effective retail competition, while allowing firms to be integrated.

Assumptions (Option 1)

There is no change in regulatory burden for the status quo option.

Average Annual Regulatory Costs (from Business as usual)				
Change in costs ($million)	**Business**	**Community Organisations**	**Individuals**	**Total change in cost**
Total by Sector	($0)	$0	$0	($0)

Assumptions (Option 2)

- This option would in theory result in substantive cost savings for business that would no longer be required to separate under Part 7/8 requirements – that is carriers not operating under the 1km exemption (because to those operating under the exemption these requirements do not currently apply and therefore they would not realise any such benefit).
- However, Telstra has already voluntarily undertaken to structurally separate and most major carriers have not indicated they are planning to roll out telecommunications infrastructure under Part 7/8 rules.
- As such there are no existing businesses that would experience benefit from this removal.
- Repeal would not affect NBN Co as NBN Co is established in legislation as a wholesale-only operator and could not move to a vertical structure even if Part 7 and 8 were removed.
- Consequently there is no change in regulatory burden for the option.

Average Annual Regulatory Costs (from Business as usual)				
Change in costs ($million)	**Business**	**Community Organisations**	**Individuals**	**Total change in cost**
Total by Sector	($0)	$0	$0	($0)

Assumptions (Option 3)

- The outcome of amending legislation to apply Part 7/8 as intended achieves the same outcome as Option 5 (preferred). Option 5 is a faster version of Option 3.
- Similar to the explanation provided in Option 5 the Department considers only one operator would potentially be impacted by this option. The regulatory costs associated with this option are exactly the same as Option 5 (see attachment A for methodology is estimating separation costs. The method has estimated an affected carrier would incur a total cost of $17.98 million over a ten year period. This translates to an annualised cost of $1.8 million per annum.

Average Annual Regulatory Costs (from Business as usual)				
Change in costs ($million)	**Business**	**Community Organisations**	**Individuals**	**Total change in cost**
Total by Sector	$1.797	$0	$0	$1.797

Assumptions (Option 4)

- The outcome of making a carrier licence condition is the same as Option 3 and Option 5.
- Refer to assumptions outlined in Option 5 and attachment A for methodology in estimating regulatory burden of separation.

Average Annual Regulatory Costs (from Business as usual)				
Change in costs ($million)	**Business**	**Community Organisations**	**Individuals**	**Total change in cost**
Total by Sector	$1.797	$0	$0	$1.797

Assumptions (Option 5 – preferred)

- The Department considers that only one business at most will be impacted by the proposed Carrier Licence Condition instrument. Only one carrier has indicated it plans to expand its local loop footprint and provide superfast carriage services whilst operating under the 1km regulatory exemption. The remaining carriers that could operate under the 1km exemption have not expressed any desire to roll out new superfast networks to residential customers. Telstra has also voluntarily undertaken to structurally separate. Further, it is not certain that even one carrier would be impacted as the decision to proceed with its investments has not yet been made. However, for

completeness the RBM costing has assumed that one business will be impacted by the Carrier Licence Condition.

- The Department considers that only one carrier would incur a cost to functionally separate as a result of the proposed CLC. The reasons for this are outlined below:
    - iiNet has advised it supports the rollout of the NBN and structural separation. Further, it has already entered into agreements with NBN Co for the sale of its FTTH assets in the ACT.
    - Optus is in the process of negotiating a potential transfer of the HFC network assets to NBN Co. Optus has also been a strong supporter of structural separation and has not indicated any desire to invest in further infrastructure (given it wrote down almost $700 million on its HFC investments).
    - Telstra has voluntarily undertaken to structurally separate as part of the NBN definitive agreements.
    - Greenfield operators such as Opticomm are already structurally separated and have been for quite some time.
    - Further, there are no other carriers with the scale or capital that could undertake to roll out significant superfast broadband infrastructure within the proposed two year timeframe of the CLC.
    - Further, it would not be possible for a new entrant to be impacted by these rules because a new entrant would not have existing infrastructure that would enable them to operate as a vertically integrated service provider under the 1km exemption in Part 8. As such, a new entrant would be subject to the existing requirements of Part 7 and 8 and would need to be structurally separated.

- The affected carrier advised in its submission that it was already in the process of building a wholesale product platform. That is, a commercial decision to develop these systems and offer wholesale services to access seekers has already been made in the absence of any such regulatory requirement. This limits the substantive costs of achieving the outcome sought given business as usual costs already included development of provisioning and billing systems. Therefore, the costs incurred primarily arise from the need to 'ring-fence' wholesale and retail systems and workforce restructuring.

- To achieve legal separation the Department considers there is no need for the affected carrier to establish new companies because it already has separate corporations (by virtue of acquisition). Therefore corporate separation costs would primarily be driven by workforce planning and reappointment activities as well as the separation of some IT systems.

- In its submission the carrier did not offer any estimate of direct costs that would be incurred by undertaking separation. For this reason the Department has undertaken some analysis of experience in international jurisdictions to develop an estimate of potential costs – see Attachment A for method used to estimate costs.

Workings

Regulatory Burden and Cost Offset Estimate Table

Average Annual Regulatory Costs (from Business as usual)				
Change in costs (<u>$million</u>)	**Business**	**Community Organisations**	**Individuals**	**Total change in cost**
Total by Sector	$1.797	$0	$0	$1.797
Cost offset (<u>$million</u>)	**Business**	**Community Organisations**	**Individuals**	**Total by Source**
Agency	($22.02)	$0	$0	($22.02)
Are all new costs offset? ☑ yes, costs are offset □ no, costs are not offset □ deregulatory, no offsets required				
Total (Change in costs - Cost offset) (<u>$million</u>) ($20.223)				

The regulatory cost offsets noted in the above table have been identified within the Communications portfolio. These cost offsets relate to the Identity Checks for Prepaid Mobile Services reforms.

ATTACHMENT A

Method Used to Estimate the Costs of Structural and Functional Separation

The costs of structural or functional separation depend on a range of variables and circumstances specific to the context of the business that is undergoing separation. These factors include:

- The size of the business
    - *The larger the business the greater the cost to achieve separation. There are more products, systems, people and business processes to separate.*
    - *This should only account for the fixed-line portion of the business (either by assets or revenue). Information has been sourced from annual shareholder reports (prior to separation and indexed for inflation).*

- How established the business is as a vertically integrated entity.
    - *The degree of vertical integration and systems interdependence follows from the period of time a business has operated the more costly the process will be given business processes and systems are more integrated.*

- Corporate Structure
    - Whether the business has any natural organisational separation between its retail and wholesale divisions.

- The complexity of legacy IT systems.
    - *The older the IT systems the higher the cost of achieving functional separation of those operating and business systems. The financial sector is a perfect example of this.*

- Complexity of network asset ownership post separation.
    - *The more complex the asset ownership the greater costs in developing new systems to achieve the post separation regulatory outcomes.*

Estimating costs impacts of Carrier Licence Condition on the affected carrier

The method outlined here uses available data about separation costs for British Telecom (BT) and Telecom New Zealand to develop an estimate of the costs incurred by the carrier to implement the regulatory requirements sought under the proposed Carrier Licence Condition.

This estimate is developed by comparing the relative degree of size, complexity and vertical integration of the carrier in comparison to BT and Telecom New Zealand and making proportional adjustments in costs to reflect differences. The two cost estimates are then averaged to produce the cost estimate used in the RBM calculations.
Key assumptions in comparing the costs of BT and Telecom NZ to the potential costs of the carrier achieving functional separation:

- BT and Telecom NZ were long established vertically integrated providers operating since the early 1900s.

    - The carrier is relatively new (2007) and does not operate a substantial local access network.
    - A relative weight of 40 per cent was assigned to reflect comparative costs.
- BT and Telecom NZ had many legacy systems and complex IT arrangements. This is a highly significant driver of costs when logical and physical separation of IT systems is required.
    - The carrier operates a simple business model with very few products and little complexity.
    - It has also grown through acquisition and therefore has a number of constituent companies that could be used in establishing separated arrangements.
    - A relative weight of 30 per cent was assigned to reflect comparative costs.
- In terms of size of business the carrier is much smaller than BT and Telecom New Zealand and therefore we expect the costs of separation to be proportionally smaller. For example the carrier's fixed line revenues are
    - 2.723 per cent of inflation adjusted fixed-line revenue achieved by BT
    - 11.97 per cent of inflation adjusted fixed-line revenue achieved by Telecom NZ
- It is assumed that an affected business would incur ongoing annual costs of 20 per cent of their one-off separation costs (primarily arising from wages relating to functions separation – for example, appointing a new director).

See below for snapshot of working spreadsheet.

RIS (separate) - Carrier License Condition					
Cost of BT Separation	$ 372,170,763	AUD (2014)			
Factor	**Factors contribution to separation costs**	**BT (index)**	**Carrier**	**% weights**	**Total**
Degree of vertical integration	30%	10	4	40.00%	$ 44,660,492
Corporate structure	20%	10	8	80.00%	$ 59,547,322
Complexity of IT systems	50%	10	3	30.00%	$ 55,825,614
Size of business	Adjustment factor	$22,378,895,549	$500,000,000	2.23%	
Estimated costs for Carrier					$ 3,575,543
Cost of Telecom NZ Separation	$ 180,000,000	AUD (2014)			
Factor	**Factors contribution to separation costs**	**Telecom NZ (index)**	**Carrier**	**% weights**	**Total**
Degree of vertical integration	30%	10	4	40.00%	$ 21,600,000
Corporate structure	20%	10	8	80.00%	$ 28,800,000
Complexity of IT systems	50%	10	3	30.00%	$ 27,000,000
Size of business	Adjustment factor	$4,177,438,499	$500,000,000	11.97%	
Estimated costs for Carrier					$ 9,264,050
Implementation Cost (one off)					**$ 6,419,797**
Ongoing costs (20%)					**$ 1,283,959**

**See working spreadsheet for calculations.

**The % weights reflect a reduction in costs in proportion to the less integrated and complex nature of the carrier's business compared to the highly integrated incumbents BT and New Zealand Telecom.