



Australian
Competition &
Consumer
Commission

Domestic mobile roaming declaration inquiry

Draft Decision

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1. Executive summary

The ACCC has released its draft decision to not declare a domestic mobile roaming service.

At issue is whether the difference in geographic coverage between the mobile networks has led to reduced competition or inefficient outcomes in mobile markets, and whether declaration of a mobile roaming service would address such concerns. Consistent with the legislative framework, the ACCC has considered whether declaring a roaming service would promote the long-term interests of end-users (LTIE) by promoting competition, achieving any-to-any connectivity and encouraging the economically efficient use of, and investment in, infrastructure.

State of competition in relevant markets

The ACCC's preliminary finding is that the national retail mobile services market is currently exhibiting signs of reasonably effective competition.

Service providers compete on a broad range of product features such as price, geographic coverage, service quality, network technology, inclusions and content.

Consistent with a currently effectively competitive market, Australian mobile consumers have benefited from decreasing prices for calls, messages and data services while mobile operators continue to invest in technology and quality upgrades. This has meant that Australians benefit from high quality mobile networks while paying retail prices below the OECD average.

However, while the ACCC has found that competition in the national market is generally effective, we acknowledge there is often little choice of effective network operator for those consumers who value geographic coverage.

Telstra clearly has an advantage in competing for consumers who value or require regional coverage, owing to its extensive geographic network coverage. Further, due to the low population density in regional Australia, and the high costs of extending a mobile network in these areas, Telstra is likely to retain a coverage advantage in the future.

This means that some consumers are likely to have a limited choice of mobile provider, and in many regional and remote areas, Telstra is the only viable network provider. However, we find that these factors alone are not sufficient to justify declaration of a roaming service.

Importantly, mobile retail prices do not vary according to where a consumer lives or makes or receives calls, texts or uses data. We consider that national uniform prices mean that consumers benefit from effective competition in non-regional areas. While some of Telstra's prices are higher than those of its competitors, we have found that effective competition in the national market still constrains Telstra's pricing. For some plans, such as mid to high cost postpaid plans, Telstra offers are similar to those available from other providers. Further, other brands such as Boost Mobile (Boost) may offer cheaper plans across the Telstra footprint. Therefore, it does not appear that Telstra's coverage advantage is leading to significant competitive detriment in the national market or in regional areas.

Will declaration promote the long-term interests of end-users?

The question for this declaration inquiry is whether a wholesale roaming service should be declared in order to promote competition in retail markets and to encourage the efficient use of, and investment in infrastructure and thereby, promote the LTIE. The ACCC has found that given the current state of the market, declaration would not promote the LTIE to an extent that would justify declaration.

Promotion of competition

First, the ACCC does not consider that declaration will promote competition to a significant extent.

While declaration would improve Optus' and VHA's ability to compete with Telstra on the basis of network coverage, there is insufficient evidence to suggest that this would have a significant impact on overall competition in the national retail mobile services market.

Importantly, declaration of a roaming service would be likely to significantly reduce the benefits a mobile network operator (MNO) would experience from extending its network coverage beyond that of its rivals. In turn, this may lead to reductions in the incentive for MNOs to invest in improved network coverage and upgrades in regional, rural and remote areas in the future. In that sense, the ACCC believes that the superior network coverage of Telstra and, to a lesser extent, Optus, is as much the outcome of competition between mobile operators as it is a competitive differentiator between the three MNOs currently providing services in Australia.

The ACCC also considers there is insufficient evidence to support the view that declaration, by increasing retail choice for consumers who value coverage, would improve overall competition in a way that would benefit consumers. We consider that the effect of declaration on retail prices is uncertain. It is possible that Telstra's higher prices for some plans may be reduced as it would lose its competitive advantage in having superior network coverage. However, we consider the extent to which Telstra's prices may drop may be small as we have found that it is already constrained to some degree in its pricing. It is also possible that Optus and VHA's prices will increase to reflect the cost of accessing a declared service. This may adversely affect consumers who currently choose Optus or VHA but do not value coverage. There is also a risk that declaration may result in MNOs moving away from national uniform pricing which could lead to higher prices for mobile services in regional areas, thereby disadvantaging consumers who live and work in those areas.

The ACCC also considered whether declaration would promote competition by lowering barriers to entry to the market. During the inquiry, TPG obtained sufficient 700MHz spectrum to roll out a national network and announced that it intended to build a mobile network. The ACCC considers that the entry of a fourth MNO would be an extremely positive outcome for competition and consumers in the national mobile services market.

The ACCC has considered declaration of mobile roaming in the areas where competition in the wholesale roaming market is ineffective, that is, Telstra-only coverage areas. We do not consider that declaration of a roaming service in these regional areas will do much to lower barriers to entry or facilitate the entry of a new MNO. Further, we do not consider that a new entrant would need to acquire roaming and provide retail services in the Telstra-only area to be a credible national competitor.

While a mobile roaming service may assist a new entrant in metropolitan areas while it is rolling out its own network, we consider that competition in the wholesale roaming market in these areas should be effective. This means that such a service is likely to be provided without the need for declaration. However, we would be concerned if MNOs chose not to

provide a roaming service to TPG in areas where there should be effective competition in the wholesale roaming market in order to protect existing market shares.

Any-to-any-connectivity

The ACCC is required to consider whether declaration will achieve any-to-any connectivity. In the ACCC's view the any-to-any objective in the LTIE test is designed to promote interconnection between networks. As declaration of a mobile roaming service will not affect interconnection arrangements between mobile networks, we do not consider declaration will promote any-to-any connectivity.

Economically efficient use of, and investment in, infrastructure

Finally, the ACCC has considered whether declaration could encourage the economically efficient use of, and investment in, infrastructure. The key risk of regulation is that it can distort investment incentives. If the regulation is not targeted or warranted, it may reduce efficient investments which result in socially beneficial outcomes.

Many submissions identified this risk and expressed concerns that declaration may reduce or remove incentives for the MNOs to continue investing in infrastructure in regional, rural and remote areas, thus harming the interests of regional consumers and businesses.

In general, we consider that if Telstra is required to provide roaming to access seekers in the Telstra-only area, declaration coupled with an appropriately set regulated price should provide it with incentives to maintain and upgrade its existing network. This is particularly the case if upgrades would lead to an efficiency benefit for Telstra and access seekers bear an appropriate part of the cost of the upgrade. However, the ACCC notes that setting appropriate access prices would be challenging.

The ACCC has also considered whether declaration will promote efficient investment in infrastructure by access seekers and has found this to be more complicated.

Optus, for example, has clearly indicated its intention to make significant ongoing investments to compete with Telstra on regional coverage.

On the one hand, declaration coupled with appropriate regulated pricing would mean that Optus would have incentives to make efficient build/buy decisions. This ensures that there is no duplication of infrastructure where it would be otherwise inefficient to build infrastructure.

On the other hand, Optus currently appears to be making investments not only to compete on coverage reach but on network quality. We consider that there is potential for Optus to differentiate its services on quality in the Telstra-only area. Such investments are driven by competition and are likely to be efficient. In these circumstances, declaration may distort Optus' efficient investment incentives and stifle the development of differentiated services, thus undermining dynamic efficiency. Further, it may also indirectly remove any incentives on Telstra's part to respond to Optus' investment in order to maintain its network coverage superiority.

For these reasons, we consider that, while generally declaration coupled with appropriate regulated prices would promote efficient investments when there is failure of the market to deliver efficient outcomes, this is not currently the case in the mobile services market. As Optus is continuing to make efficient investment as a result of generally effective competition in the market, declaration is likely to distort efficient investment incentives.

With regard to whether declaration will promote efficient use of infrastructure, we consider that declaration could potentially promote more efficient use of the access provider's existing infrastructure in areas where roaming would be provided if there is sufficient excess

capacity. While it is difficult to predict the amount of roaming traffic that is likely to result from a declaration, we consider that given the presence of excess capacity, there would be some efficiency gains in making this capacity available to access seekers.

For all the above reasons, the ACCC's draft decision is not to declare a domestic mobile roaming service.

Measures to promote competition and improve mobile networks

The inquiry has given some thought to whether there are regulatory or policy measures that could address concerns of regional Australia regarding the lack of adequate and continuous mobile coverage and effective competition in regional areas. For many consumers and small businesses in regional, rural and remote areas, these are issues of vital importance.

The ACCC recognises that no single existing government initiative or regulatory mechanism can reduce the costs of deploying mobile networks in certain areas of Australia or promote competition in regions where there is limited infrastructure. The Australian Government has committed significant funding to address mobile black spots in regional Australia which will result in around 86,000 square kilometres of new handheld coverage under the first two rounds of the mobile black spots program.

However, we are seeking views from consumers and small businesses in regional areas and from other stakeholders about measures that could lead to improvements in competition in regional areas, which in turn would improve coverage. These measures, which are outlined in section 9, focus on:

- Improving transparency around MNOs' investment plans and commitments in regional Australia,
- Providing consumers with information about network quality,
- Improving the effectiveness of infrastructure sharing, and
- Ensuring that, given spectrum is an essential input into mobiles markets, the spectrum regulatory framework promotes competition.

2. Introduction

The Australian Competition and Consumer Commission (ACCC) is conducting an inquiry into whether to declare a wholesale domestic mobile roaming service (mobile roaming service).

The ACCC is conducting this inquiry to determine whether the difference in geographic coverage provided by the three mobile networks is impacting competitive and efficient outcomes in mobile markets, and whether declaring a mobile roaming service would be in the long-term interests of end-users (LTIE).

Under subsection 152AL(3) of the *Competition and Consumer Act 2010* (Cth) (CCA), the ACCC may declare an eligible service following a public inquiry under Part 25 of the *Telecommunications Act 1997* (Cth) (Telecommunications Act), provided the ACCC is satisfied that the making of the declaration will promote the LTIE of carriage services or services provided by means of carriage services.

This report sets out the reasons for the ACCC's draft decision to not declare a domestic mobile roaming service.

2.1. Background to the ACCC's inquiry

There are three mobile networks in Australia operated by Telstra Corporation Limited (Telstra), Singtel Optus Pty Limited (Optus), and Vodafone Hutchison Australia Pty Limited (VHA), operating as Vodafone, which have different geographic footprints. Telstra's network has the largest coverage footprint, at over 2.4 million square kilometres. Optus is the second largest, at around one million square kilometres and VHA's network has the smallest geographic coverage at around 600,000 square kilometres. Under its roaming agreement with Optus, VHA's network coverage is 900,000 square kilometres.

However, each network is far more similar in terms of population coverage. Telstra's 3G network covers around 99.3 per cent of the population, Optus' 3G network covers around 98.5 per cent of the population and VHA's is able to offer 3G network coverage to around 97 per cent of the population.¹ However, the low population density and large size of regional Australia, means that MNOs incur significant costs in extending population coverage by a small amount in regional area. This is because they must cover large areas to achieve only a small increase in population coverage. For instance, Telstra covers only 0.8 per cent more of the population than its competitors but its network is over one million square kilometres larger than the next largest network.

The difference between geographic coverage and population coverage impacts the competitive dynamics between the network operators and their investment incentives. In areas of high population density, such as metropolitan and large regional centres, there is infrastructure-based competition by all three network operators as they compete to reduce the population coverage gap. Returns from investment in coverage in these areas are generally assured as direct revenues will flow from increased market share.

However, in areas of low population density, particularly regional and remote areas, investment to extend coverage will not result in corresponding direct returns. There are fewer customers and to some degree, their needs for more contiguous coverage over greater areas are higher. This has meant that there is less infrastructure-based competition

¹ We note that VHA's own 3G network covers 95.7 per cent of the population, but that it is able to offer services to over 97 per cent of the population under an agreement with Optus.

in these regions, and consumers can generally only obtain reliable mobile services from either one, or in some areas, two network operators.

Historically, Telstra has been the prominent service provider for regional and remote consumers. This is due to multiple reasons. First, as the government-owned fixed service provider Telstra (then known as Telecom) built the first cellular network using analogue AMPS technology. When 2G GSM technology was introduced, the less efficient AMPS network was to be phased out. However, due to coverage limitation issues with GSM technology, Telstra was required to design and build a digital network that was capable of matching the AMPS regional coverage footprint, which it did with CDMA technology. This resulted in Telstra having the most extensive network in regional and remote Australia.

Secondly, when Telstra introduced its NextG 3G network, the then Minister for Communications imposed a carrier licence condition on it requiring it to provide NextG coverage equivalent to its CDMA network before it was allowed to shut down the CDMA network. At that time, CDMA was still the most widely used technology in regional Australia, and as such many regional consumers using Telstra's CDMA network moved to Telstra's NextG network. When NextG was launched in 2006, the network covered 98.3 per cent of the population, compared with CDMA's coverage of approximately 98 per cent. In comparison, it has taken Optus until 2016 to reach the same network coverage. The ACCC has considered whether to declare a mobile roaming service on two previous occasions. The ACCC held its first inquiry to examine the issue in 1998.² In this inquiry, the ACCC decided not to declare the service as it considered that the competitive benefits from mobile roaming services would be realised without regulatory intervention as these services were being provided on a commercial basis.

The second inquiry was held in 2004 and found that while mobile roaming is pro-competitive, declaration was not necessary to ensure that its competitive benefits were realised given the commercial supply arrangements in existence. Consequently, the ACCC was not satisfied that declaration would promote competition. While the ACCC found, at that time, that the declaration of roaming would encourage the economically efficient use of and investment in infrastructure, it also found that declaration was not necessary to achieve these objectives. Overall, in 2005, the ACCC was not satisfied that declaration of a mobile roaming service was in the LTIE owing to the competitive conditions in the market.

The ACCC has commenced this inquiry in response to various recent public inquiries and reports that have raised concerns about the limitations of infrastructure-based competition in regional Australia. Some of those inquiries have questioned whether mobile roaming services and infrastructure sharing could improve competition. Representatives of agricultural communities have also asked the ACCC to examine mobile roaming to address coverage and competition concerns. In addition, some industry members have raised concerns with the ACCC about the provision of wholesale mobile services in regional Australia, and suggested that the ACCC could examine these as part of a declaration inquiry.

² ACCC, *Inquiry into domestic intercarrier roaming declaration*, March 1998.

2.2. Inquiry process

The current inquiry commenced on 5 September 2016. On 26 October 2016, the ACCC commenced public consultation for the inquiry by releasing a discussion paper under Part 25 of the *Telecommunications Act 1997*. This paper sought views on a range of issues relevant to the inquiry.

The ACCC received over 130 submissions to the discussion paper from a range of stakeholders including industry participants, local government, regional and industry associations, consumer representatives, businesses and consumers. The public version of these submissions, as well as the discussion paper, is available on the [ACCC's website](#).

The three mobile network operators have provided submissions, which include expert reports and analyses. As the views presented in those submissions are contested, several parties have lodged submissions-in-reply. The ACCC acknowledges that this inquiry has created a degree of regulatory uncertainty for service providers. It has received requests from industry members to make its draft decision as soon as practicable. Accordingly, the ACCC indicated it would not take any further submissions into account for its draft decision after 5pm, 13 March 2017. The ACCC notes that VHA provided a submission in reply on 13 March 2017. The ACCC acknowledges that interested parties may wish to respond to that submission in their response to the ACCC's draft decision. In this way, the ACCC will have the benefit of all stakeholders' views in reaching its final decision.

The ACCC also sought information from industry stakeholders and consulted informally with a number of interested parties including regional representatives.

The ACCC wishes to thank industry and representative groups for their assistance and cooperation throughout the inquiry thus far.

2.3. Making a submission

The ACCC is seeking submissions on the matters raised in this draft decision, which it will take into account in reaching its final decision for the inquiry. The ACCC prefers to receive submissions in electronic form, either in PDF or Microsoft Word format, which allows the submission to be text searched. Submissions are due by 5pm, Friday 2 June 2017 and can be lodged on the ACCC's Consultation Hub or by email to mobileroaminginquiry@acc.gov.au.

To foster an informed and consultative process, all submissions will be considered as public submissions and will be posted on the ACCC's website. If interested parties wish to submit commercial-in-confidence material, they should submit both a public version and commercial-in-confidence version of their submission. Any commercial-in-confidence material should be clearly identified, and the public version of the submissions should identify where commercial-in-confidence material has been removed.

The ACCC published a guideline setting out the process parties should follow when submitting confidential information to communications inquiries by the ACCC. The ACCC/AER Information Policy June 2014 sets out the general policy of the ACCC and the Australian Energy Regulator (AER) on the collection, use and disclosure of information. A copy of the guideline and policy are also available on the [ACCC website](#).

2.4. Structure of the report

The report is presented in two parts. The first part, which consists of sections 3, 4 and 5, sets out the regulatory framework and explains the ACCC's assessment approach for

declaring a service. It also identifies the relevant markets for this inquiry and the state of competition in the relevant markets.

The second part, which consists of sections 6 to 10, examines whether declaration of a mobile roaming service would be in the LTIE. Section 6 considers whether declaration would achieve the objective of promoting competition; section 7 considers whether declaration would promote any-to-any connectivity and; section 8 examines whether the objective of encouraging the economically efficient use of, and economically efficient investment in, infrastructure would be achieved through declaration. Section 9 discusses options for addressing concerns raised by regional consumers during the inquiry. Section 10 summarises the ACCC's reasons for forming the preliminary view that declaration of a mobile roaming service would not be in the LTIE.

Appendix A to the draft decision provides a more detailed outline of the legislative and assessment framework for the ACCC in making a declaration decision.

3. The regulatory framework and the ACCC's assessment approach

Australians rely on the market economy to provide positive outcomes for their prosperity and welfare. Competition can deliver the goods and services consumers want at the prices they are willing to pay. However, the market economy is not perfect. Consumer welfare can be undermined, especially in some areas of infrastructure provision where there are monopoly suppliers.

In situations where this occurs, the ACCC has a role in providing effective economic regulation that will protect, strengthen and supplement competitive market processes to improve the efficiency of the economy and increase the welfare of Australians over the long-term.

3.1. What is a regulated mobile roaming service?

Mobile roaming services allow mobile subscribers of one network to use their mobile phones for calls, text messages and data services on another network in Australia when outside the coverage area of the network to which they subscribe. A mobile roaming service essentially allows a mobile network operator (MNO) to provide mobile services outside of its network footprint.

There are three key parts of a mobile network: the radio access network, the transmission (or backhaul) network, and the core network.

The radio access network connects end-users to the mobile network. It consists of radiofrequency spectrum and mobile base stations (including towers). The transmission network connects mobile base stations or towers to the core of the mobile network, using fibre optic cable or other technologies, like microwave links. The core of the network, which is usually located in capital cities, performs functions such as switching, and is where interconnection takes place.

There are two types of investment that MNOs can make in their mobile networks. First, an MNO can upgrade its mobile network technology in areas where it currently has network coverage. This often involves upgrading equipment located at mobile towers, or increasing transmission capacity. The rollout of 4G mobile networks across large parts of Australia is an example of MNOs' investment to upgrade to new generation technology.

The second type of investment that an MNO can make is in extending its network coverage. This will usually require greater expenditure than network upgrades, because, to increase coverage, an MNO will need to establish new base stations, and new transmission links to connect these base stations back to the core of their network³.

VHA has been a strong advocate for imposing economic regulation to address what it sees as negative consumer effects of the significant differences in network coverage disparity. It claims that it is not economic for VHA to replicate Telstra or Optus's coverage; that is, that a significant amount of Telstra's coverage is a natural monopoly. This is a difficult claim to test and the ACCC examines this further when it outlines the relevant markets to this inquiry when applying the LTIE test.

However, the existence of access 'bottlenecks' or monopoly infrastructure are not the sole reasons for regulatory intervention.

³ The ACCC has declared the domestic transmission capacity service (DTCS) in certain areas and set regulated access prices.

Before regulating, the ACCC must be satisfied that doing so is in the LTIE. In order to do this, the ACCC considers the extent to which regulation is likely to result in the promotion of competition, achievement of any-to-any connectivity, and encouragement of the efficient use of, and investment in, infrastructure.

This section provides more information on the legal and regulatory framework for telecommunications in Australia and, in particular, the LTIE test.

3.2. Regulatory framework

There is no general right to access telecommunications services in Australia, and access is usually unregulated unless the ACCC has made a decision to declare.⁴ If a service is declared, an access seeker can seek access to that service and the access provider (the owner of the service or facility) must provide access in accordance with the access obligations set out in the CCA.⁵

The ACCC may only declare a service after holding a public inquiry where it is satisfied that this would promote the LTIE.

As noted above, in deciding whether declaration will promote the LTIE, the ACCC must consider whether declaration is likely to result in the achievement of the following three objectives:

- promote competition in markets for telecommunications services
- achieve any-to-any connectivity, and
- encourage the economically efficient use of, and investment in, telecommunications infrastructure.⁶

The ACCC is required to consider only the above objectives when determining whether declaration would be in the LTIE. Each of these objectives is discussed in more detail below.

3.2.1. Promoting competition

To determine whether declaration will promote competition, the ACCC will:

- identify and define the relevant markets
- assess the current state of competition in those markets, and
- assess how declaration may affect competition in those markets.

In identifying the relevant markets, the ACCC will consider the market(s) which are relevant to the supply of the service and any downstream markets which may rely upon this service. The ACCC will generally give most attention to the markets for downstream (or retail) services, as these (rather than the upstream or wholesale markets) are usually the markets in which declaration may promote competition.

When assessing the current state of competition in a relevant market, the ACCC will consider a number of factors including market share and concentration levels, whether there are any barriers to entry, and any dynamic market characteristics such as growth, product differentiation and the potential for new competition to emerge.

⁴ *Competition and Consumer Act 2010* (CCA), section 152AL subject to some specific provisions in relation to the NBN.

⁵ CCA, section 152AR.

⁶ CCA, section 152AB.

In considering the effect that declaration will have on competition in relevant markets, the ACCC will consider the likely future state of competition in the relevant market, with and without declaration of the service. Among other things, this will require consideration of whether declaration will establish conditions under which competition will be improved and whether these conditions would develop without declaration.

3.2.2. Achievement of any-to-any connectivity

Declaration of a service will promote any-to-any connectivity if it allows end-users of a telecommunications service to communicate with other end-users, whether or not they are connected to the same network. This is particularly relevant when considering services which require interconnection between different networks.

3.2.3. Economically efficient use of, and investment in, infrastructure

The ACCC must have regard to a number of matters when assessing whether declaration will promote the economically efficient use of, and investment in, telecommunications infrastructure. The ACCC must consider:

- whether it is technically feasible to supply and charge for the service
- the legitimate commercial interests of suppliers of the service, and
- the incentives for investment in the infrastructure used to supply the service under consideration, and other telecommunications services.⁷

When considering incentives for investment in infrastructure, the ACCC will consider how declaration may impact incentives for investing in existing infrastructure as well as how it may impact decisions about maintenance, improvement and extension of this infrastructure, and investment in new infrastructure.

Further information

Further information about the legislative assessment framework is set out at Appendix A.

The ACCC's [Guideline to the declaration provisions for telecommunications services under Part XIC of the Competition and Consumer Act 2010](#) also provides further guidance about the declaration process and the ACCC's general approach to declaration decisions.

⁷ CCA, section 152AB(6).

4. The relevant markets for mobile roaming

Key points

- As part of the LTIE test, the ACCC examines the state of competition in relevant markets and whether declaration will promote competition. In the discussion paper, the ACCC proposed a wholesale roaming market and a retail services market.
- The ACCC's preliminary finding is that there is a separate market for wholesale mobile roaming services (the wholesale roaming market) but does not consider that it must precisely define this market. This is because market definition is purposive and the ACCC is using it to examine competitive dynamics. Importantly, a wholesale roaming product is not a homogeneous product as it varies according to geographic coverage and network technology.
- The ACCC's preliminary finding is that there is a separate national retail market for mobile services (national mobile services market), including mobile voice, SMS and broadband services, and that there are geographic variations within that market. While submissions had suggested that the ACCC consider separate geographic markets, the ACCC finds that geographic coverage in regional areas is relevant to metropolitan areas.
- Submissions raised the relevance of the wholesale market for the supply of mobile services to mobile virtual network operators, the downstream or retail markets for the supply of machine-to-machine services and the Internet of Things mobile services. The ACCC welcomes further submissions on these markets.

As noted above, to determine whether declaration is in the LTIE, the ACCC must consider, among other things, whether declaration will promote competition in the relevant markets.⁸ Because the ACCC is considering the interests of end-users, it must consider whether competition will be promoted in the market for services used by end-users; that is, in retail markets. This includes consideration of wholesale markets as network operators may require roaming services in order to deliver retail mobile services in certain areas.

To consider whether declaration would promote competition, the ACCC has identified the relevant markets as being the wholesale roaming market and the related downstream or retail national mobile services market (section 4). It has then assessed the current state of competition in those markets (section 5). Our assessment of whether declaration will promote competition is set out in section 6.

4.1. The relevant markets

Identifying the relevant markets allows the ACCC to assess whether competition in the markets is effective, and whether declaration will promote competition in them.

It is important to note that Part XIC of the CCA does not require the ACCC to precisely define the scope of the relevant markets for the purpose of a declaration inquiry. As a result, market analysis under Part XIC should be seen in the context of shedding light on how declaration may promote competition for the purposes of this inquiry. Further, as market definition is purposive, defining a market in a particular way in a declaration inquiry does not prevent the ACCC from defining this market differently in other contexts. Accordingly, the ACCC considers it sufficient to broadly identify the markets likely to be affected by the

⁸ CCA, subsection 152AB(2).

declared service, having regard to the product, function, geographic and temporal dimensions of the market.⁹

In its discussion paper, the ACCC proposed that the markets relevant to the declaration inquiry are:

- the market for wholesale mobile roaming services, and
- the national mobile services market, noting that there are variations in each of the MNO's ability to provide mobile services in different regions of Australia.

A central part of defining the relevant markets is to consider not only the services in question (that is, mobile roaming services or retail mobile services), but also any goods or services that are substitutable for, or otherwise competitive with, the goods and services offered in the relevant markets. Substitution allows the ACCC to assess competition by considering whether switching can occur from one product or service to another in response to a change in the relative price, service or quality of the product or service that is the subject of the inquiry.

4.1.1. The ACCC's finding is that the wholesale roaming market is a separate market

The ACCC considers that there is a separate market for wholesale roaming services. However, it has also found that wholesale roaming services are not homogeneous, either from the access provider's or access seeker's perspective. In reaching this view, the ACCC considered submissions from MNOs, retail service providers and information obtained from the market. The ACCC has concluded that, in general, there are no effective substitute services for a wholesale roaming service in regional Australia.

However, the ACCC does not consider that a mobile roaming service is an essential input into retail mobile services as a network operator can extend its own network into an area in order to provide a mobile service.

The ACCC has set out below the relevant views of interested parties, together with its reasoning for reaching this view.

Operators' views on whether there are there substitutes to a wholesale roaming service

In the discussion paper, the ACCC sought submissions on whether there were any effective substitutes for a roaming service. In particular, it sought views on whether infrastructure sharing and/or regulated transmission prices would be substitutes for a wholesale mobile roaming service. That is, whether the existing framework for facilities access or regulated transmission services would allow MNOs to reduce the geographic coverage gap between MNOs.

Telstra agreed that the relevant market in which the service is supplied is the market for wholesale roaming services which MNOs supply to each other.¹⁰ It considered that more extensive co-location requirements could be an effective substitute for mobile roaming, noting that 'infrastructure-based competition delivers better customer outcomes than resale competition through domestic roaming'.¹¹ It also pointed to evidence to support its view that

⁹ ACCC, *A guideline to the declaration provisions for telecommunications services under Part XIC of the Competition and Consumer Act 2010*, August 2016, pp.33-34.

¹⁰ Telstra, *Response to the ACCC's Discussion Paper on the declaration of a wholesale domestic mobile roaming service*, 2 December 2016 (Telstra submission), p.110

¹¹ Telstra submission, p. 108.

the current facilities access arrangements, which enable the sharing of passive infrastructure, are effective.

Optus also considered that infrastructure sharing could increase coverage in regional areas. While noting that MNOs face significant capital and operating costs to deploy new infrastructure, it submitted that these costs can be reduced if deployed and operated jointly with another MNO.¹²

While VHA agreed with the proposed market definition suggested in the discussion paper, it considered that geographic and product dimensions of the market should be considered. In relation to effective substitutes in the wholesale market, VHA considered more extensive co-location requirements would not be an effective substitute for mobile roaming services in most of the locations in which either one or two MNOs have coverage. It considered that co-location (along with regulated transmission pricing) does not overcome the 'structural and cost impediments faced by the MNOs to deploy competing networks' in Telstra only coverage areas.¹³ This is because co-location only involves the sharing of tower infrastructure – passive network sharing – requiring the duplication of network costs and significant time delay in deployment, relative to mobile roaming.¹⁴ Mobile roaming on the other hand, is a form of active network sharing, and cannot be substituted for passive network sharing.

Pivotel similarly did not consider co-location to be a substitute for mobile roaming, due to the uneconomic and inefficient nature of these arrangements.¹⁵

Infrastructure sharing is important but is not a substitute for wholesale roaming services

Infrastructure sharing is an important element of rolling out mobile networks in Australia. In theory, sharing base stations, combined with access to regulated transmission prices, would allow operators to extend networks at less cost than building their own infrastructure and transmission networks. However, we have found that infrastructure sharing is not an effective substitute for a wholesale roaming service in Telstra-only coverage areas. The views of submitters and our assessment are set out below.

Submissions suggest that, even with infrastructure sharing in regional areas, an MNO will still need to incur significant costs to deploy and operate new infrastructure. For example, information provided by Telstra shows that, on average, co-location results in upfront capital expenditure savings of about **[c-i-c]** in regional and remote areas, when compared to building a new site.¹⁶ However, ongoing operating expenditure is more expensive when co-location is used, and is around **[c-i-c]** more per annum than the ongoing costs required for new sites.¹⁷ Further, VHA also suggest that even with infrastructure sharing, the costs of building mobile network infrastructure in regional areas are too high to justify investing in the area.¹⁸

¹² Optus, *Submission in response to the ACCC Discussion Paper: Domestic Mobile Roaming Declaration Inquiry*, 25 November 2016 (Optus submission), p. 20.

¹³ VHA, *Domestic Mobile Roaming Declaration Inquiry Part A of the submission by VHA*, 5 December 2016 (VHA submission), p 104.

¹⁴ VHA submission, pp. 21-22.

¹⁵ Pivotel, *Submission in response to ACCC's discussion paper: domestic mobile roaming declaration inquiry*, 25 November 2016 (Pivotel submission), p. 4.

¹⁶ Statement of Robert Joice, Attachment to Telstra's submission of 2 December 2016, p. 11.

¹⁷ *ibid.*

¹⁸ VHA, *Domestic Mobile Roaming Declaration Inquiry: Part B of submission – Responses to specific questions from the ACCC*, 5 December 2016, p 23.

While infrastructure sharing and/or co-location can be useful for MNOs to build mobile networks at a reduced cost in some areas, we consider that for many parts of regional Australia, the costs of extending a network will still be significant, and it may take time to establish new infrastructure. However, a roaming service would allow an operator to offer retail mobile services in areas where it does not have coverage, as soon as it has access to that service, and would not require an MNO to make substantial capital expenditure. Therefore, we do not consider that infrastructure sharing is an effective substitute for a mobile roaming service.

Wholesale roaming services are not homogeneous

Access providers have different incentives to offer wholesale roaming services and access seekers have different needs for a roaming service. For example, a new entrant may require more extensive roaming services, which may include some metropolitan areas and some regional areas. It may also require access to different technologies, such as 3G and 4G networks. Another access seeker may only require a roaming service in areas where it does not have network coverage or it may only require access to a 4G network.

Similarly, an access provider may factor in expected revenues from a roaming agreement when deciding whether to invest to extend coverage. As such, it may have different incentives than a network operator with an existing network in a geographic area. Or, an access provider may choose to offer a roaming service to recover some revenue if it considers that it will lose market share to a new entrant.

Wholesale roaming services may be supplied to cover discrete geographic areas where the acquiring MNO does not have network coverage, or they can be provided across the whole of the access provider's network. Competitive dynamics may differ between particular geographic areas, and an MNO offering a wholesale roaming service may wish to retain a competitive advantage in regional areas where there is no, or limited, competition from other MNOs. For example, under an agreement with Optus, VHA is able to provide 3G coverage to up to 97 per cent of its population coverage, up from 96 per cent without the agreement. Optus therefore retains a population coverage advantage of 1.5 per cent. **[c-i-c]** We therefore find that the state of competition and the nature of available services in the markets for wholesale roaming services differ depending on the area where they are offered (and this is discussed in further detail in the following sections).

4.1.2. The ACCC's preliminary finding is that there is a national mobile services market and there are geographic variations within that market

As noted above, the ACCC proposed in its discussion paper that there was a national mobile services market. The ACCC accepts that there is a variance in competitive conditions between different regions, especially in regional, rural and remote areas. We also accept that for consumers in some remote and regional areas, there are few, if any, effective alternatives to Telstra's mobile services. However, we have found that, for the purposes of this inquiry there is a national market for retail mobile services. This does not preclude the ACCC from taking any geographic variations in competition into account when assessing the state of competition.

Discussed below are the competing views of the network operators and the ACCC's reasons for its preliminary finding.

Operators' views on whether there is a national mobile services market

Because the ACCC is required to consider the impact on end-users, most submissions focused on the effect of declaration on the retail mobile services market. Telstra and Optus

both considered that the geographic scope of the retail mobile services market to be national.

VHA, however, submitted that the geographic scope of the retail mobile services market should be segmented into regional and metropolitan areas, as there is limited substitutability on both the demand and supply sides.¹⁹ VHA pointed to the characteristics of regional areas, particularly areas in which only one operator provides mobile services, as supporting its view that the ACCC should consider a narrower geographic scope when assessing the state of competition. It considered that the variations in each MNO's geographic coverage mean that for some consumers, a service from an MNO with greater geographic coverage is not substitutable for services provided by another MNO with less coverage.²⁰

The ACCC's preliminary finding is that the national mobile services market is a relevant market

A key consideration in this inquiry relates to the geographic dimension of the market definition and, in particular, whether there is a national market or whether there are regional markets. As noted above, the market definition is important as it allows us to assess whether competition in that market is effective and whether declaration would promote competition.

We find that the relevant downstream market is the retail mobile services market. Declaration would affect the downstream market as a roaming service would be an input into a retail mobile service. The ACCC considers there is a separate market for mobile services as there are currently no effective substitutes for a mobile retail service, which includes mobile voice, SMS and broadband services. Other communications services do not allow consumers to use these services in different locations.

The question is then whether this market is a national market or whether there are separate regional markets. In examining this issue, the ACCC considered both demand and supply side considerations.

There are some factors that indicate there are regional markets. For example, for consumers who live in some regional areas, a service offered by one MNO cannot be substituted with a service from another MNO unless that other MNO can offer the required coverage. On the supply side, a service provider cannot offer services in regional areas where it does not have network coverage.

However, the ACCC considers that the factors supporting a finding that there is a national market outweigh the above factors. We have found that:

- Mobile services are provided on a national basis, with consumers able to use their services in any part of Australia where their service provider has coverage. The service that a consumer can acquire does not differ based on where they reside, and services are not advertised as being specifically metropolitan or regional.
- Service providers price mobile services on a nationally consistent basis. That is, service providers offer the same range of retail services in all areas where they have coverage, at the same price level.
- Service providers also compete nationally for market share. Geographic coverage is one element on which they compete. Because a consumer can use their mobile service wherever their service provider has coverage, the extent of that coverage is a factor that consumers (in metropolitan and regional areas) will consider when choosing a service provider. As such, a service provider competing for customers

¹⁹ VHA submission, p. 68.

²⁰ VHA submission, p. 70.

nationally will rely on their network coverage in regional areas to compete against other service providers.

- For the network operator, this also means that when making decisions to invest to extend coverage, the additional revenues expected from attracting consumers in metropolitan areas who value or require regional coverage will be factored into those decisions. This is the indirect return from extending coverage. The ACCC accepts the proposition that the business case for building out infrastructure into regional areas which would make a loss on a 'standalone basis', is made by considering the total increase in revenues generated across its entire customer base.²¹ This is discussed further at section 5.4 below.

We have found that MNOs' coverage in regional Australia is relevant to competition in metropolitan areas. Further, we have found that competition in metropolitan areas impacts the services available to consumers in regional areas due to the nationally consistent nature of mobile retail offers. For these reasons, the ACCC does not consider that competition in metropolitan and regional areas can be considered in isolation. The ACCC has therefore concluded, for the purposes of this inquiry, that the geographic scope of the retail mobile services market is national, but as noted in section 5, we consider there are geographic variations within the national market, particularly in regional areas.²²

4.1.3. Are there other markets that should be considered?

Some submissions argued that the ACCC should also consider a separate wholesale market for the supply of mobile services to mobile virtual network operators (MVNOs), the downstream market for the supply of machine-to-machine services (M2M services) and mobile services related to the Internet of Things (IoT services). These submissions argued that these markets are relevant to the inquiry because they would be impacted by declaration.

Pivotel and Macquarie submitted that the downstream market for the supply of mobile services to MVNOs by MNOs is relevant to the declaration inquiry and should be considered separately.^{23,24} ACCAN considered that competition for retail mobile services could be promoted by improving MVNO access to MNO networks.²⁵

VHA submitted that the limited supply of mobile roaming affects its ability to supply M2M services and that declaration would promote competition in this market.²⁶ Macquarie Telecom also referred to competition issues in this market.²⁷ Pivotel submitted that the retail market for IoT services is a downstream market relevant to the declaration inquiry.²⁸

²¹ Ovum, *Mobile Network Investment and Domestic Roaming*, prepared for Telstra, 2 December 2016 (Ovum report), p. 8.

²² The ACCC notes that this is consistent with the approach that it has taken in the past. For example, the ACCC considered that the retail market for mobile broadband services was a national market in the competition limit advice for the 1800 MHz spectrum auction (see, ACCC, *Competition limits advice for 1800 MHz spectrum in regional areas*, May 2015). It is also consistent with the approach taken in the 2014 mobile terminating access service declaration inquiry, and 2015 mobile terminating access service final access determination inquiry.

²³ Macquarie Telecom, *Submission in response to the ACCC Roaming Declaration Inquiry Discussion Paper Oct 2016*, 2 December 2016 (Macquarie Telecom submission), p. 7.

²⁴ Pivotel submission, p. 5.

²⁵ Australian Communications Consumer Action Network, *Domestic mobile roaming declaration inquiry: Submission by the Australian Communications Consumer Action Network to the Australian Competition and Consumer Commission*, 2 December 2016 (ACCAN submission), pp. 14-15.

²⁶ VHA, *Domestic Mobile Roaming Declaration Inquiry Part A of the Submission by VHA: Supplementary submission*, 13 March 2017 (VHA supplementary submission), p.16.

²⁷ Macquarie Telecom submission, p. 10.

²⁸ Pivotel submission, p 5.

The ACCC is not persuaded that these markets constitute separate markets which are relevant for the purposes of assessing the impact of declaration.

However, not all parties commented on these submissions and the ACCC has not formed a view on whether the effect of declaration on these markets should be considered separately. It is therefore seeking additional views from interested parties on whether these markets should be considered separately or whether they form part of the national retail services market and, if so, how declaration would affect those markets.

5. State of competition in relevant markets

Key points

- The ACCC has assessed the current state of competition in the relevant markets identified in section 4.
- The ACCC considers that competition across the wholesale roaming market may not be effective in some parts of the market. However, the ACCC considers that competition in the retail market is more integral to assessing the effect of declaration.
- The ACCC considers that competition in the retail mobile services market is currently exhibiting signs of being reasonably effective, but is less effective in parts of regional Australia. However, while there is less choice of service provider for consumers who require or value regional coverage, these consumers still benefit from greater competition in non-regional parts of the market.

This section sets out the ACCC's assessment of the current state of competition in the relevant markets.

In assessing the state of competition, the ACCC will not only consider current conditions and behaviour, but will also consider features likely to affect competitive supply of services in the future. To assist in its assessment, the ACCC has had regard to a number of factors including market structure, concentration levels, price and non-price rivalry, and the dynamic characteristics of the market.

When assessing competition, the ACCC generally considers the concept of effective competition rather than perfect competition.

Effective competition in retail markets requires the appropriate conditions not only for service providers to seek to maximise profit but also for consumers to be able to effectively choose and purchase goods and services. The Organisation for Economic Co-operation and Development (OECD) has referred to effective competition in telecommunications as:

*'Effective competition is concerned not only with the ability to control prices and costs for products and/or services, but also with consumer benefits such as quality of service, a range of services available to consumers, efficient operation of firms in a market and innovative service provision as well.'*²⁹

5.1. State of competition in the wholesale market for mobile roaming services

The ACCC has assessed the state of competition in the wholesale roaming services market and found that there are signs in some parts of the market that competition is not effective.

Some submitters consider there is not effective competition in the wholesale roaming market

Only two submitters commented on the state of competition in the wholesale market for mobile roaming services. VHA submitted that the wholesale roaming market in the areas where it has sought roaming are areas where Telstra's network has a monopoly or areas where Telstra and Optus have a duopoly. It argues that the wholesale roaming market in

²⁹ OECD, Indicators for the Assessment of Telecommunications Competition DSTI/ICCP/TISP, 2001, p. 6.

these areas is not effectively competitive.³⁰ TPG also commented on the state of competition in the relevant markets. It submitted that [c-i-c].

5.1.1. The ACCC finds that there is not effective competition in some parts of the wholesale mobile roaming market

The state of competition in the market for wholesale mobile roaming services appears to depend on the area of Australia in which those services are being offered.

In much of the areas served by two or more MNOs, the ACCC considers competition is generally effective. Currently, VHA has a commercial roaming agreement with Optus which allows its customers to roam onto certain parts of Optus' network where VHA does not have coverage.³¹ Also, Telstra has indicated that it has commenced discussions with VHA to offer a commercial roaming agreement that could replace the Optus-VHA roaming agreement once it expires in 2018.³²

However, in more regional and remote areas, and particularly in The Telstra-only area, the ACCC considers competition in the wholesale roaming market is not effective. This is because Telstra is the only provider of roaming services in these areas, and has not negotiated, and has appeared unwilling to negotiate, commercial roaming agreements.

Based on the information the ACCC has received, it is unlikely that an MNO would offer a competitor full access to its network footprint. Access to a more limited footprint enables an MNO to retain a competitive advantage through greater network coverage. The ACCC considers that each network has some degree of market power in the retail market and that competition has a number of dimensions, including network coverage. The MNOs compete by investing in network expansion and technology meaning that, at any particular time, a network may have superior coverage in a particular geographic area which differentiates it from its rivals and gives it a competitive advantage. It is therefore rational, and an outcome of these competitive forces, that an MNO would not offer a wholesale product that would affect a source of its ability to compete.

With regard to potential new entrants acquiring roaming in the wholesale market, the ACCC notes TPG submitted [c-i-c]. The ACCC expects that a new MNO entrant commencing a network build-out should be able to negotiate a roaming agreement with an existing provider depending on competitive conditions in the retail market. For example, an MNO may consider that a new entrant may affect its market share disproportionately to other MNOs (by offering a similar product, for example) thereby giving it an incentive to recover from a roaming agreement, some of the revenue it would lose from loss of market share. For that matter, another MNO may see that it could recover revenue from a competitor who would lose market share from a new entrant, by offering that new entrant a roaming agreement. The ACCC welcomes further submissions on this matter.

As discussed in detail below in section 5.4, we consider it is likely that Telstra will retain its coverage advantage in regional Australia, and that it is unlikely other MNOs will make significant network extensions into this area. Accordingly, we have found that competition in the wholesale mobile roaming market in these areas is unlikely to develop in the future and as such, we do not consider there is effective competition in these areas.

However, as noted below, the market which is more important for the declaration inquiry into the LTIE will usually be the downstream or retail market and not the upstream or wholesale market in which the service is supplied.

³⁰ *ibid.* pp. 60.

³¹ Optus submission p. 17.

³² Telstra submission p. 111. We note that [c-i-c]

5.2. State of competition in the national retail mobile services market

The ACCC's assessment of the national mobile services market suggests that the state of competition is mixed. Although the ACCC has found this is a national market, there is regional variation in the state of competition across the market. However, taking the views of submitters into account and assessing a number of factors, the ACCC has formed the view that the state of competition in the national retail market is generally showing signs of reasonably effective competition.

In conducting its assessment, the ACCC has examined a number of competitive factors, both price and non-price, on which service providers currently compete. It has also examined dynamic characteristics, including past and current levels of market concentration, consumer switching behaviour and barriers to entry.

Submitters offered mixed views about the state of competition. These are set out below, along with the ACCC's preliminary conclusions.

Service providers generally agree competition in metropolitan areas is effective but offer different views on regional competition

Telstra submitted that Australia's national mobile services market is one of the most competitive by international standards. It considers Australian consumers are benefitting from vigorous competition in the form of lower retail prices, higher service inclusions, and other innovative offerings. Telstra also claimed that consumers only served by one MNO still benefit from competition due to national plans and prices.³³

Optus was also positive about the current state of competition in the national mobile services market, submitting that competition in this market is strong, and has been one of the most successful areas of competition in the communications sector. It notes there are three large competing MNOs operating across a large portion of Australia and as a result, retail prices have fallen significantly over the last decade.³⁴

VHA presented a contrary view. It submitted that Australia's market is highly concentrated and the fact that Telstra has been able to increase both its prices and its market share is not to be expected in a competitive market.³⁵

TPG described competition in the mobile services market as 'comfortable', submitting that MNOs are competing on inclusions but they do not appear to be competing significantly on price. TPG also submitted that competition in regional areas is significantly less effective than metropolitan areas.³⁶ Pivotel considered metropolitan competition effective, but that regional competition was non-existent.³⁷

Consumers and regional groups point to less effective competition in regional areas

Other submissions also considered that competition differed between geographic areas, with most considering that metropolitan competition is effective.

The National Farmers' Federation, NSW Farmers, Victorian Farmers Federation, and the Tasmanian Farmers and Graziers Association all considered there is a lack of competition in

³³ Telstra submission, pp. 19, 111.

³⁴ Optus submission pp. 11, 15.

³⁵ VHA submission, p 9.

³⁶ TPG, *Submission by TPG Telecom Limited to the Australian Competition & Consumer Commission Declaration of Mobile Roaming*, 2 December 2016 (TPG Submission), p. 2.

³⁷ Pivotel submission, p. 7.

regional areas as Telstra is the only practical choice of provider due to its greater coverage footprint.³⁸

ACCAN submitted that due to nationally consistent pricing, regional consumers benefit to some degree from competitive pressure on prices in large metropolitan markets. However, it also noted that for regional consumers, many cheaper plans are not available due to a lack of coverage.³⁹

The following sections provide the ACCC's preliminary findings on relevant dimensions and indicators of competition:

- market shares over time and evidence of concentration
- switching behaviour
- price rivalry
- network quality
- geographic coverage, and
- inclusions and content services.

5.2.1. Market shares over time and evidence of market concentration

There is relatively strong infrastructure-based competition for services based on population coverage across Australia, with the three MNOs each owning and operating a national mobile network covering a large majority of the population (around 96 per cent).⁴⁰ There are also a number of smaller MVNOs that acquire wholesale mobile telecommunications services from MNOs which they use to provide retail mobile services to customers. While we do not yet see evidence of MVNOs placing significant competitive constraints on the MNOs, they play an important role of providing services to segments of the market that the MNOs do not target directly, including those seeking low price plans (i.e. under \$30 a month) or special inclusions (for example, low-priced calls to particular countries).

In terms of market share, Telstra has been the leader in the national mobile services market for a number of years with a clear market share advantage. As at June 2016, Telstra had a 45 per cent share of the national retail mobiles services market, followed by Optus at 27 per cent and then VHA at 18 per cent. The ACCC's data also indicates that MVNOs' market share is collectively around 10 per cent.⁴¹

VHA submitted that Australia's retail mobile market is highly concentrated and that while competition for retail mobile services in metropolitan areas is more intense, competition is very soft in regional areas and competitive constraints on Telstra are not effective.

However, the ACCC notes that national market shares have changed significantly over time. While there is now a significant difference between the market shares of Telstra and VHA, the gap has not always been this large. Figure 1 below illustrates how the MNOs' national market shares have changed over recent years.

³⁸ National Farmers' Federation, *Submission to the Australian Competition and Consumer Commission's Inquiry into Domestic Mobile Roaming Declaration Inquiry*, 28 November 2016 (NFF submission), p. 8; NSW Farmers, *Submission to ACCC Domestic mobile roaming declaration inquiry*, 25 November 2016 (NSW Farmers submission), p. 8; Victorian Farmers Federation, *Submission to Domestic Mobile Roaming Declaration Inquiry*, 1 December 2016 (VFF submission), p. 5; Tasmanian Farmers and Graziers Association, *Submission to Domestic mobile roaming declaration inquiry*, 2 December 2016 (TFGA submission), p. 1.

³⁹ ACCAN submission, p. 14.

⁴⁰ This is based on each MNO having coverage in the majority of the area covered by VHA's network, which covers approximately 95.7 per cent of the population.

⁴¹ ACCC, *Telecommunications Reports 2015–2016*, February 2017, p. 30.

Figure 1 – Mobile retail market shares between 2007 and 2016⁴²

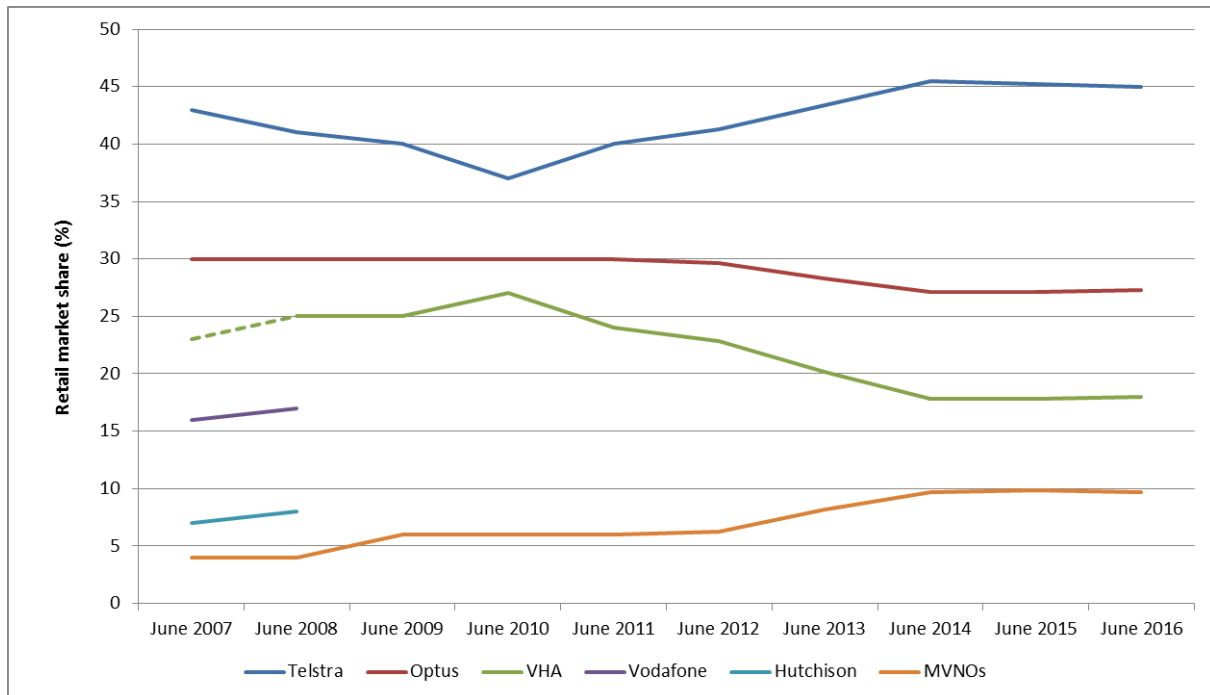


Figure 1 clearly shows that Telstra’s market share was falling until VHA experienced its serious network issues in late 2010. Since that time, Telstra’s market share has grown as VHA’s share has fallen. This was likely because VHA’s network issues occurred at a time when Telstra adopted a more aggressive pricing strategy, improved its customer service focus and continued to invest in its network. Between 2010 and 2015, Telstra’s market share increased from 37 to 45 per cent, while VHA’s fell from 27 to 18 per cent. Further, during this period, Optus’ market share remained relatively stable, moving from 30 per cent in 2010 to 27 per cent in 2014.

Figure 1 also illustrates that the mobiles market is reasonably dynamic and that the position of the MNOs changes over time. All the networks compete on a range of non-price factors including network quality, network technology and coverage. None of these are fixed and at any given point in time, a particular network may have a competitive advantage over its rivals. For example, a network that experiences a drop in service quality will lose customers to a rival network. The experience of VHA in 2010 is an example of this risk.

While Telstra has a leading position in its national share of retail services, market share figures vary across Australia.

The ACCC received estimates of market shares in different parts of Australia from a number of parties. While these figures differed slightly, they consistently show market shares for mobile services in metropolitan areas are more evenly distributed than the national market. In many metropolitan centres Telstra’s share of the market is significantly smaller than it is nationally. For example, [c-i-c]. VHA also provided a detailed breakdown of market shares in different capital cities, as shown in Table 1 below.

⁴² ACCC Telecommunications reports 2006-07 to 2015-16.

Table 1. VHA estimates of market share in capital cities.⁴³

[c-i-c]

These figures show that Telstra appears to have the greatest market share in key metropolitan areas, followed by Optus, VHA and then the MVNOs. However, the difference between Telstra's and others' market share is smaller in these areas than they are nationally. Further, in some metropolitan areas **[c-i-c]** estimates indicate that Optus has the greatest share of the market.

In contrast, figures provided by stakeholders show that Telstra's regional market share is significantly larger than those of its competitors. For example, **[c-i-c]** Further, VHA provided estimates of market shares in areas outside of the capital cities, as shown in Table 2 below

Table 2. VHA estimates of market share outside of capital cities⁴⁴

[c-i-c]

Overall, market share data illustrates that the MNOs hold similar shares of the market in metropolitan areas, but that in regional areas, Telstra is in a far stronger position than its competitors. However, it also shows that in more populous areas outside of the capital cities, such as Newcastle and the Gold Coast, Telstra and Optus hold similar shares of the market. However, in such areas, VHA holds a fairly small market share.

These market share figures support submissions that describe metropolitan competition as more effective than regional competition. Clearly, in regional areas, Telstra continues to hold a significant share of the market. Potential reasons for this are discussed below.

5.2.2. Switching behaviour

The ACCC notes that Australian consumers are readily able to change from one mobile service provider to another. Mobile number portability facilitates switching behaviour and promotes competition as consumers are able to choose between competing providers while maintaining the convenience of their own telephone number. This has also reduced the barriers to entry to the market, which is evidenced by the large number of MVNOs that have entered the market. This is supported by recent research conducted by the Australian National University (ANU).⁴⁵ This study, which surveyed consumers, found that 71 per cent of MNOs' subscribers had switched service provider in the past, and that 83 per cent of MVNOs' subscribers had switched.

However, switching can only occur where network operators offer the level of coverage that consumers need and where consumers have information about the functionality and quality of the services offered by competing providers. This means that in regional areas where consumers do not have the same choice, switching is less likely to occur. This is discussed further at section 5.3 below.

5.2.3. Price rivalry between service providers

One of the primary factors over which mobile service providers compete for customers is price. Currently, retail price competition appears to be relatively strong in the mobile services market. As detailed below, retail prices have fallen considerably over time which has benefited consumers of mobile services. In particular, metropolitan consumers are currently benefiting from a wide range of retail service offers, at many price points, from three MNOs

⁴³ VHA submission, p 77.

⁴⁴ VHA submission, p 77.

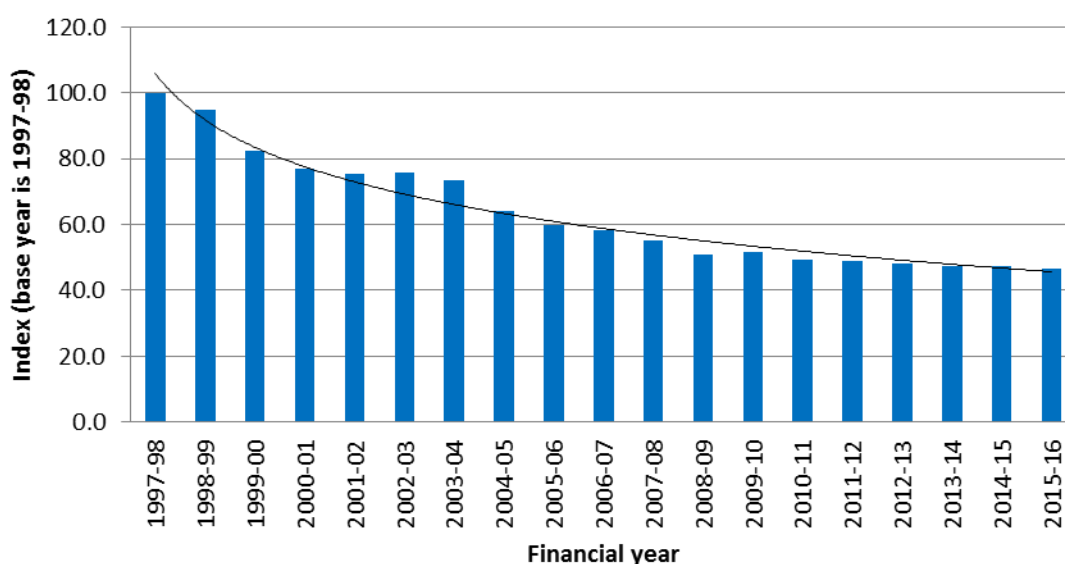
⁴⁵ Alex Richardson and Greg Shailer, *The state of competition in the Australian mobile resale market: A study of Australian MNOs and MVNOs*, ANU, January 2016.

and a large number of MVNOs. Even in regional areas where there is limited infrastructure-based competition, consumers can obtain attractive price-quality plans for mobile services. Telstra offers a range of plans to customers at the same price points offered in parts of the market where there is infrastructure-based competition, and lower priced plans from Boost, are also available that may offer the same or similar coverage to Telstra.

Price competition has seen retail prices for mobile services fall substantially over time. Since 1997-98, prices for mobile services have decreased in real terms by 53.4 per cent. As the market has matured, the rate at which retail prices have declined has slowed. As shown in Figure 2 In the period 1997-98 to 2007-08, the average annual decrease in prices for mobile services was 6 per cent. Since then, average annual prices have decreased by 2 per cent.⁴⁶

As noted above, this price rivalry also benefits regional consumers because operators price their services consistently regardless of location.

Figure 2: Mobile service index: 1997-98 to 2015-16⁴⁷



However, while the average retail price decline has slowed in recent years, the effective value of plans to consumers has improved, with consumers being offered increased inclusions in a range of plans. For example, a large number of plans now offer unlimited voice and SMS inclusions. In 2014, the ACCC observed that unlimited voice inclusions were becoming more common for higher cost plans, but were uncommon in lower cost plans. However, in 2016, market analysis shows that unlimited voice and SMS inclusions are a common feature of many mobile plans at different price points. A more recent assessment in March 2017 found that, of the 142 postpaid plans the ACCC surveyed from 20 service providers, 113 offered unlimited talk and text.

Competition between operators, network upgrades and consumer demand has seen data inclusions become the main differentiating factor in mobile retail plans. Again, competition between service providers has seen the volume of data inclusions increase in recent years. Between 2015 and 2016, data inclusions for postpaid plans increased by an average of 30 per cent. This followed significant increases in data inclusions in 2014 and 2015, during

⁴⁶ ACCC, *Telecommunications reports 2015–2016*, February 2017, pp. 96–97.

⁴⁷ ACCC, *ACCC Telecommunications Reports 2015–2016*, p. 97.

which, data inclusions in postpaid mobile services increased by around 78 per cent and 119 per cent respectively.

Data inclusions for prepaid plans have also increased. In 2015-16, data inclusions increased by 44 per cent, following a relatively small increase of 9 per cent in 2014-15.⁴⁸

These factors suggest that price competition in the mobile market is reasonably dynamic. While operators have continued to invest to upgrade networks and expand capacity to meet consumer demand, they continue to price services competitively to retain or grow market share.

Australian retail prices are also low compared to those offered in other jurisdictions. For example, in 2014, Australia was ranked 11th in the OECD for mobile telephony prices, with Australian prices well below that of comparable countries such as Canada and the United States.⁴⁹

5.2.4. Non-price rivalry

Competition on service quality

Another factor supporting a finding that there are currently signs of reasonably effective competition is the rivalry between operators in relation to network and service quality. Consumer demand for data and high quality services have driven competition between the MNOs to make significant investments to upgrade their mobile networks.

The most recent illustration of this is the rapid rollout of 4G networks in Australia. Between 2011 and 2013, all three MNOs launched 4G mobile networks. These networks are more advanced than 3G networks, offering faster data rates and lower latency. Since the initial rollout, the MNOs have continued to improve and expand their 4G coverage. Telstra increased the population coverage of its 4G network from 66 per cent to 98 per cent between 2013 and 2016, while Optus increased its 4G population coverage from 75 per cent to 94 per cent in the same period. Although VHA has the smallest geographic coverage of all three MNOs, its 4G network covers about 94 per cent of the population.⁵⁰ Importantly, these services are not limited to infrastructure-based providers, with MVNOs also reselling 4G services.

MNOs have also moved quickly to introduce advanced LTE 4G technology, which substantially increases download speeds on compatible handsets, as another point of differentiation.⁵¹

Competition over network quality has benefited Australian consumers, particularly in metropolitan areas, with Australia ranking fifth in the world for mobile network data speeds in OpenSignal's latest Global State of Mobile Networks report.⁵² Further, the rate of uptake of smartphones in Australia compared to other jurisdictions illustrates how Australian consumers are benefitting from competitive prices and network quality-based competition. According to the Australian Communications and Media Authority, as at June 2016, 76 per cent of Australian adults use a smartphone, up from 49 per cent five years ago.⁵³ A similar estimate by the Pew Research Centre put Australian smartphone penetration in 2016 at

⁴⁸ ACCC, *ACCC Telecommunications Reports 2015–2016*, p. 99.

⁴⁹ OECD, *Economic Surveys: Australia 2017*, February 2017.

⁵⁰ ACCC, *ACCC Telecommunications Report 2013-14*, pp. 28-29; *ACCC Telecommunications Report 2015-16*, p. 33.

⁵¹ *ibid.*

⁵² OpenSignal, *Global State of Mobile Networks*, February 2017, <https://opensignal.com/reports/2017/02/global-state-of-the-mobile-network/>.

⁵³ Australian Communications and Media Authority, *Communications Report 2015-16*, p. 18.

79 per cent, which it estimated was the fourth highest smartphone penetration rate at the time, and higher than the United States, United Kingdom and Canada.⁵⁴

There is evidence that competition over network quality, and the importance of network reliability, depth of coverage, and service quality to consumers, is a factor which has contributed to Telstra's position in the national mobile market. There is a perception held by many consumers that Telstra provides high quality mobile services, will provide a more reliable and better quality service. The investment that Telstra has made in its network in the past has contributed to this consumer perception.

Information provided by the MNOs suggests that there is a noticeable difference in the number of sites of each of the MNOs networks in areas where the three of them provide coverage. Telstra generally has a greater density of sites where all three MNOs have coverage. **[c-i-c]**. The number of sites will improve the depth of coverage that an operator can offer, which means a higher quality service for consumers.

The benefits of investment in upgrading networks often take longer to reach consumers in regional areas. MNOs generally focus first on upgrading their networks in the densely populated parts of the country, such as capital cities, and then incrementally increase the coverage provided using new technologies.

MNOs are likely to take such an approach as upgrading in metropolitan areas first will generally see the greatest return on their investment, due to the large number of consumers in these areas.

Nevertheless, because of consumer demand to use new technologies across Australia, and a desire from consumers to be able to access the best technologies over a wide area, MNOs still compete on the coverage they can offer using the latest technologies. This ensures that consumers in regional areas do benefit from technology upgrades, albeit after the services are made available in metropolitan areas.

Geographic coverage

A key focus of this declaration inquiry is the degree to which MNOs also compete over the geographic coverage of their networks and the value consumers place on coverage. Population coverage is a point of differentiation, but as each of the operators have extended their population coverage to the majority of Australians, and reduced the geographic gap, coverage has remained a key differentiator between the three MNOs.

Submissions disagree on the importance of coverage to competition

Optus' submission contains a number of observations that suggests that coverage is not necessarily the most important consideration for consumers when selecting a retail service provider. It submitted that the current market shares of the MNOs reflect VHA's network issues which it experienced in late 2010, as shown in Figure 1 above.⁵⁵ Optus considered this shows that Telstra's current market share is largely reflective of a change in consumer preferences and their perception of Telstra's network performance, compared to VHA. It also considered that this is an indication of the market working effectively.⁵⁶ It also submitted that recent market research shows that network availability and performance is a large driver of network choice with pricing a close second.⁵⁷

⁵⁴ Pew Research Center, *Spring 2016 Global Attitudes survey*, <http://www.pewresearch.org/fact-tank/2017/04/21/smartphones-are-common-in-advanced-economies-but-digital-divides-remain/>.

⁵⁵ Optus submission, pp. 12-13.

⁵⁶ *ibid*, p. 13.

⁵⁷ *ibid*, p. 13.

Telstra submitted that coverage is an important factor for consumers when selecting a mobile service provider.⁵⁸ [c-i-c]

Telstra also considered that consumers have a high willingness to pay for services as they move around and travel.⁵⁹ [c-i-c]

The ACCC’s preliminary views on the importance of geographic coverage to competition in the national market

Consumers derive value from mobile services when they can make and receive calls, send and receive text messages and access mobile data wherever they are located. This in turn, makes coverage a factor upon which MNOs compete to gain customers. The level of coverage an MNO can offer will determine the degree to which they can differentiate their services from their competitors. A network that allows consumers to use their mobile phone over a wider area will generally be more valuable and gain a greater market share.

Coverage competition can also emerge when investing to upgrade technology. MNOs will compete to offer newer technologies across their geographical footprint. The upgrade from 3G to 4G networks is an example of such competition as each of the MNOs have upgraded their network to reduce the gap with their competitors’ networks.

The importance of coverage as a differentiating factor is supported by submissions from stakeholders. For example, Telstra submitted that its ‘consistent strategy has been to lead the race for coverage by continuing to push its mobile network into regional and rural Australia to differentiate itself from other MNOs’. It adds that as coverage is considered important by both regional and metropolitan consumers, Optus and VHA have consistently sought to reduce Telstra’s coverage advantage through their own investment.⁶⁰

Telstra has provided evidence which shows how mobile coverage has changed over time and the degree to which this has been driven by competition between the MNOs. Table 3 shows how the MNOs’ population coverage has increased since 1998.

Table 3 – MNO percentage population coverage between 1998 and 2016⁶¹

	1998	2005	2010	2016
Telstra	94	98 (CDMA) 96 (GSM)	99	99.3
Optus	91	94	97	98.5
Vodafone	91	92	94	95.6 (without agreement with Optus) 97 (with agreement with Optus)

⁵⁸ Telstra submission, p. 30.

⁵⁹ *ibid*, p. 33.

⁶⁰ Telstra submission, p 9.

⁶¹ See, ACCC, *Inquiry into domestic intercarrier roaming declaration*, March 1998; ACCC, *Mobile Services Review: Mobile Domestic Inter-carrier roaming service – Draft decision*, October 2004; ACMA, *Communications report 2009-10*, November 2010.

Importantly, a small increase in the proportion of the population covered by a network extension generally involves a considerable increase in the total area covered by the network. For example, between 1998 and 2016, Telstra has more than doubled the size of its network but increased population coverage by only 6 percentage points, as illustrated in Figure 3 below.

Figure 3. Telstra area and population coverage between 2006 and 2016

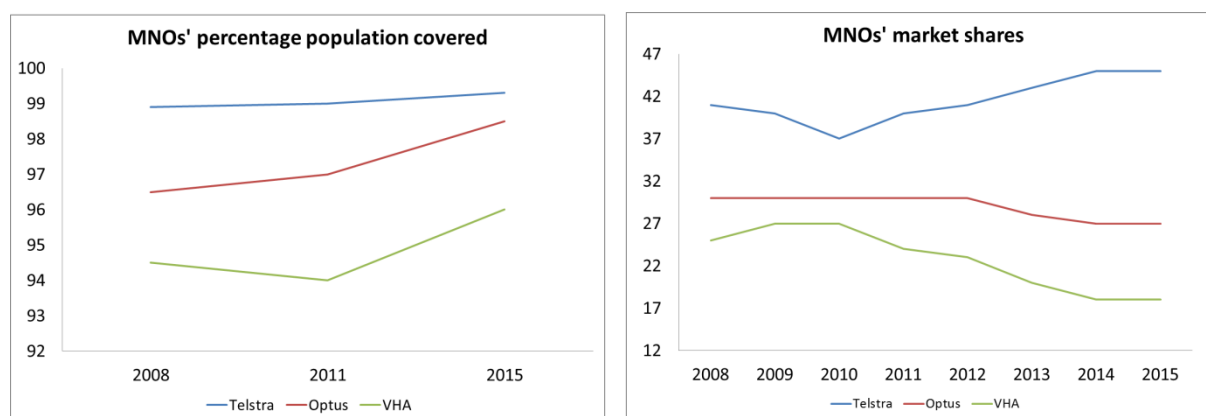
[c-i-c]

Advertising or marketing claims made by MNOs also emphasise coverage as a means of differentiating networks. For example, Telstra advertises that it has ‘Australia’s largest mobile network’.⁶² Optus advertises that its network reaches 98.5 per cent of the population; that its 4G network is available in more than 700 regional towns; and that it is working to improve services available to regional Australians by improving regional coverage.⁶³ VHA advertises that its 4G network covers 22 million Australians.⁶⁴

However, while network coverage does certainly appear to be a factor in choosing a service provider for many who live in metropolitan areas, there is evidence to suggest that there are other factors which are more important to these consumers.

First, as noted in the discussion at 5.2.1, changes in the national market shares of the operators do not appear to be strongly linked to their levels of network coverage. As shown in the Figure 4 below, VHA’s market share has decreased as its network coverage has approached that of Telstra’s. This suggests that there are other factors which consumers value when choosing a service provider, particularly in areas where coverage levels are the same.

Figure 4 – MNO population coverage compared to market share over time⁶⁵



The network problems experienced by VHA in 2010 suggest that service quality is also an important factor for consumers when choosing a service provider. In the second Analysys Mason report provided by Optus, a correlation is drawn between a significant rise in consumer complaints to the TIO in late 2010 about VHA, with a subsequent fall in VHA’s

⁶² Telstra, Coverage & Networks, viewed 24 April 2017, www.telstra.com.au/coverage-networks.

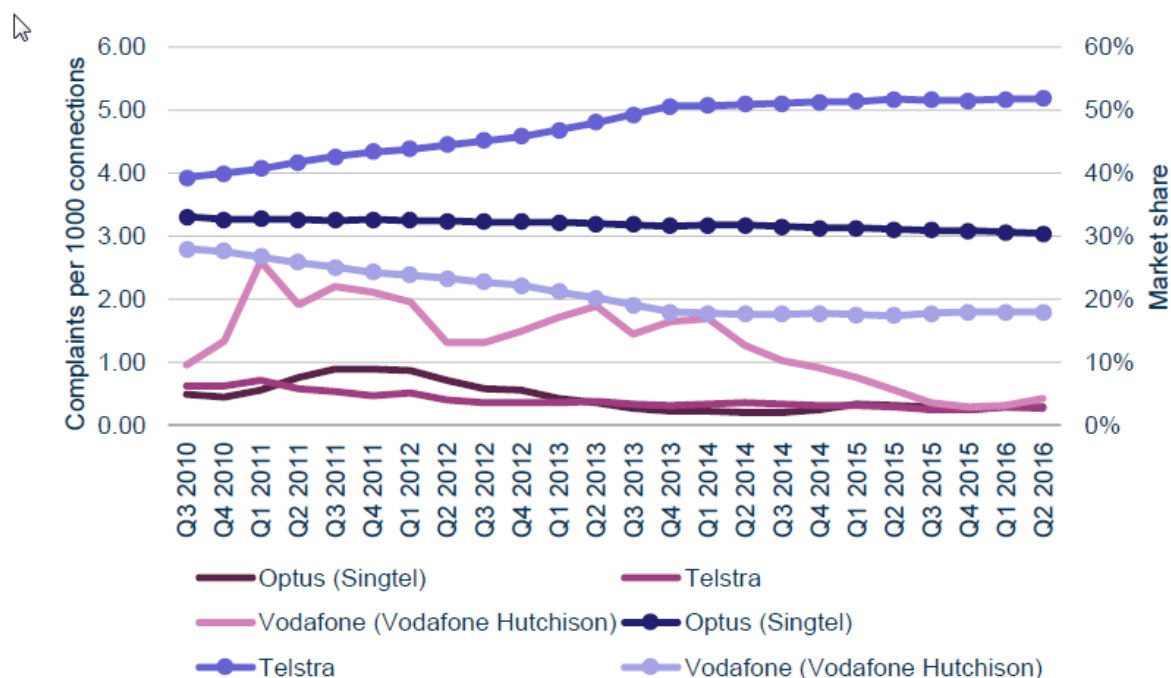
⁶³ Optus, The Optus Network, viewed 24 April 2017, www.optus.com.au/about/network?CID=short:con:othr:bau:awa:netw::&utm_source=othr&utm_medium=short&utm_campaign=shortbauawa&utm_content=#link/network/3, Optus, Regional Coverage, viewed 24 April 2017, <https://www.optus.com.au/about/network/regional-coverage>.

⁶⁴ Vodafone, Our network coverage, viewed 24 April 2017, <http://www.vodafone.com.au/network>

⁶⁵ ACCC Telecommunications reports 2006-07 to 2015-16.

market share.⁶⁶ As shown in Figure 5, a corresponding increase in Telstra’s market share suggests that consumers placed a higher value on service quality than other factors, including coverage. As complaints against VHA have reduced back to levels in line with market norms, VHA’s market share has stabilised, and is slowly starting to increase again.

Figure 5. Analysys Mason comparison of number of TIO complaints and MNO market share



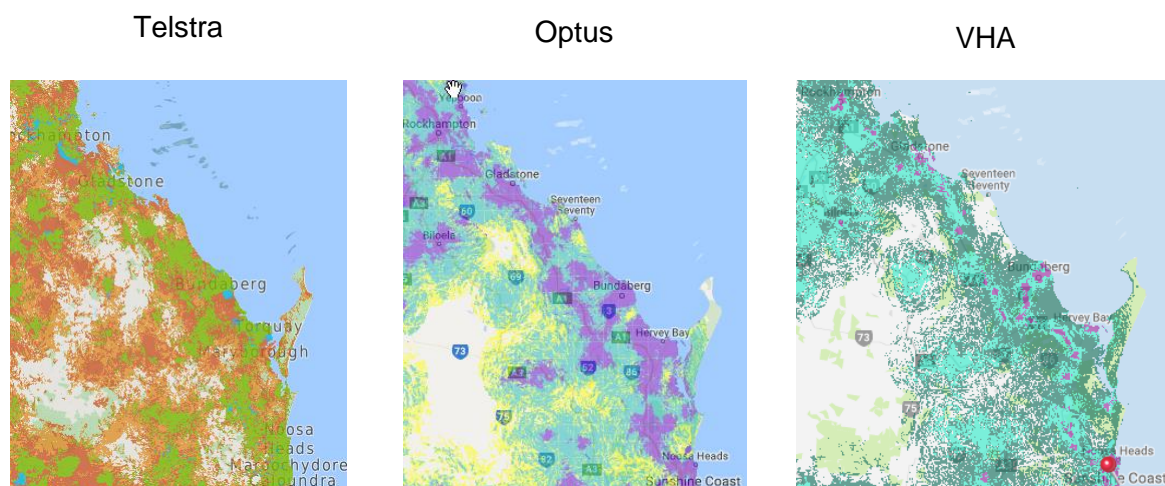
Second, Telstra’s share of the mobile broadband market also appears to suggest that consumers’ perception of the quality of Telstra’s mobile services is also driving consumer choice. Network quality is particularly important for mobile broadband services, as data services are more sensitive to network performance than voice and messaging services. Telstra’s market share in the mobile broadband market is 65 per cent.⁶⁷ It is likely that Telstra’s strong position in this market is being driven by the perception that it offers a higher quality mobile service.

Third, in areas where there is geographic coverage from all three operators, particularly in regional areas, Telstra still maintains a market share advantage. For example, all three MNOs represent that they have coverage in the Sunshine and Capricornia coast region, as shown in each MNO’s coverage maps below. However, in these areas Telstra still has a considerable share of the market.[c-i-c].

⁶⁶ Analysys Mason, ‘A critique of the expert report prepared by Dr Derek Ritzmann for Vodafone Hutchison Australia’, Submitted by Optus, 31 January 2017 p. 16

⁶⁷ ACCC, *Telecommunications reports 2015–2016*, February 2017, p. 30.

Figure 6 – MNO coverage in Sunshine and Capricornia Coast Regions⁶⁸



The coverage maps in Figure 6 also indicate that the depth and quality of coverage, and ability to offer reliable continuous coverage, in regional areas differs considerably between the operators, and suggests that this is an important factor which influences market share. VHA, with the [c-i-c] share in the area can only offer indoor coverage in a relatively small part of the area, and outside of the main towns generally can only provide outdoor coverage. Telstra and Optus on the other hand, have [c-i-c] shares of subscribers in this region, and offer more extensive and continuous indoor coverage in the area.

A fourth factor which is likely contributing to Telstra's market share advantage in regional areas is a greater physical presence than other operators. There is evidence to suggest that the physical presence of retail stores in an area contributes to an MNO's market share within that area. For example, a recent report by Roy Morgan found VHA has the leading market share in Sydney.⁶⁹

Optus pointed to the importance of a physical presence in regional centres in its submission. [c-i-c]. Data provided in submissions shows that market share in different areas is proportional to the level of retail presence, and that while VHA, Telstra and Optus have a similar retail presence in metro areas, VHA has the lowest presence in regional Australia, followed by Optus and then Telstra. For example, [c-i-c].

The importance of service quality compared to network coverage is also illustrated through comparing MNOs mobile network investments in extending coverage against investment in upgrading their networks. For example, examining Telstra's capital expenditure from the last decade also indicates a shift from network expansion to upgrading network quality. In the last five years (between 2012 and 2016), Telstra has invested nearly [c-i-c] more than it had in the previous five years. However, in the same period, their coverage expansion has been [c-i-c] of what it was in the previous period.⁷⁰ This suggests that even though Telstra is spending more money on its network, the growth of their coverage is slowing down. This indicates that most of the investment is in improving network quality rather than extending geographic coverage.

Similarly, comparing Optus' and VHA's regional investment against their metropolitan investment also indicates the focus is on improving network quality rather than expanding

⁶⁸ MNO coverage maps available on their websites. We note that the way that each operator represents their coverage differs.

⁶⁹ Roy Morgan, 'Why Vodafone is the top mobile provider in (only) Sydney' *Roy Morgan Press Release*, 17 February 2017

⁷⁰ Telstra response to ACCC information request, December 2016

the coverage of their networks. For example, over the past five years regional spending has made up only **[c-i-c]** of Optus' overall capital expenditure and approximately **[c-i-c]** of VHA's overall capital expenditure.⁷¹

The degree to which consumers value coverage when selecting a service provider is an area of dispute. There is market research that supports a finding that while many consumers consider coverage is important when selecting a mobile service network, quality is equally important.⁷² Optus submitted that market research shows that network availability and quality is a driver of choice followed closely by pricing.⁷³ The second Analysys Mason report provided by Optus provides further detail on this research. It notes that while the market research finds that coverage is the most important factor for most consumers, this refers to all network coverage and not just coverage in regional Australia.⁷⁴

Further, Telstra submitted data which showed **[c-i-c]**. The ACCC considers that this suggests that while consumers value regional coverage, non-regional consumers do not place emphasis on having coverage across the entirety of the Telstra footprint.

As noted above, a recent study by the ANU examined both the reasons consumers 'switch' providers and the relative importance of different factors when selecting a service provider.⁷⁵ It found that coverage is not the most important factor for consumers in either case. Rather, it found that the most common reason for switching service providers was better value for money, at 68 per cent of subscribers, followed by deficiencies in network coverage at 37 per cent of subscribers, and then deficiencies in network reliability at 34 per cent of subscribers.⁷⁶ It also found that the monthly cost of service was more important for 85 per cent of respondents when selecting a service provider, followed by network reliability, network coverage and amount of included data, which were important considerations to around 75 per cent of respondents.⁷⁷

Internationally, the reasons for switching a network provider appear to be similar. The Ovum report provided by Telstra, found that 41.5 per cent of switching was attributed to a better price or cheaper deal, followed by getting better network coverage, and faster mobile broadband speeds.⁷⁸

However, there is also market research that suggests that coverage is an important factor when selecting a mobile provider. **[c-i-c]** However, the ACCC notes that these observations often do not distinguish between the type of coverage that consumers value. Many consumers will value depth of coverage in metropolitan areas and having some degree of coverage outside of the major cities. However, there is insufficient evidence to show that having the greater coverage offered by Telstra is a key factor for many consumers when selecting a service provider.

As a result, the ACCC does not consider that there is currently evidence to support a finding that extensive geographic coverage is essential for a service provider to compete in the national mobile service market. It is only one factor that consumers consider, and does not appear to be the determinative factor for a high proportion of metropolitan consumers.

⁷¹ **[c-i-c]**

⁷² Optus submission, p 13.

⁷³ Optus submission p 14.

⁷⁴ Second Analysys Mason Report, p 15.

⁷⁵ Alex Richardson and Greg Shailer, *The state of competition in the Australian mobile resale market: A study of Australian MNOs and MVNOs*, ANU, January 2016.

⁷⁶ *ibid*

⁷⁷ *ibid*

⁷⁸ Ovum, *Mobile Network Investment and Domestic Roaming*, 2 December 2016.

Inclusions and content services

The ACCC has found that there are other non-price features of mobile plans that MNOs offer to differentiate their services. Service providers seek to attract customers by offering a range of features, such as exclusive content, free and/or unmetered access to streaming services, inclusions for international calls, flat rates for international roaming, free access to Wi-Fi hotspots, and access to exclusive content.

Both Optus and Telstra offer exclusive content to attract consumers who want access to sporting content. Currently, Telstra has partnered with the Australian Football League (AFL) and National Rugby League (NRL), and Optus has partnered with the English Premier League (EPL) and Cricket Australia, to provide streaming of sport content to customers.⁷⁹ These content deals are clearly designed to attract customers and increase market share, and both Optus and Telstra have made considerable investments to acquire the rights to offer access to these services. Telstra, as part of a partnership, has contributed towards both a five year \$2.5 billion agreement for AFL broadcast rights,⁸⁰ and a five year \$1.8 billion for NRL broadcast rights.⁸¹ Optus reportedly invests over \$50 million per annum for the three year agreement for EPL broadcast rights.⁸²

Each of the MNOs (and some MVNOs) also offer unmetered access to streaming services, such as Spotify and Apple Music. In some cases, they also include access to subscription music services in plans. Telstra and Boost have partnered with Apple Music to provide data-free streaming on all plans.⁸³ Optus (and its subsidiary Virgin Mobile) has partnered with Google Play Music, iHeartRadio, Pandora and Spotify to provide data-free streaming on selected postpaid plans.⁸⁴ Optus also offers unmetered streaming of Netflix to customers on 24-month postpaid plans.⁸⁵

Operators also try to attract customers by offering international calling, and roaming features. For example, VHA currently offers standard flat rates for international roaming.⁸⁶ Amaysim offers unlimited international standard calls to 10 select countries.⁸⁷

5.2.5. The ACCC's preliminary finding is that currently competition in the national mobile services market is reasonably effective

The ACCC's preliminary view is that the national mobile services market is currently exhibiting signs of reasonably effective competition. End-users across Australia have benefitted from the rivalry between service providers through lower prices and higher quality of service. Extensive population coverage by the three MNOs is another indication of competition in this market. Many consumers enjoy a wide range of offers from MNOs and MVNOs which support consumer preferences for price and non-price factors.

The ACCC finds that MNOs compete across a broad range of factors, including price, plan inclusions, network quality and coverage, and premium content. Importantly, MNOs also

⁷⁹ ACCC, *ACCC Telecommunications Report 2015-16*, pp. 32, 39

⁸⁰ AFL.com.au, *AFL signs new six-year, \$2.5 billion broadcast rights deal*, 18 August 2015, <http://www.afl.com.au/news/2015-08-18/afl-on-the-verge-of-signing-new-tv-deal>.

⁸¹ NRL News, *NRL broadcast rights deal announced*, 27 November 2015, <http://www.nrl.com/nrl-broadcast-rights-deal-announced/tabid/10874/newsid/91023/default.aspx>.

⁸² Sydney Morning Herald, *Optus snatches English Premier League rights from Fox Sports in Australia*, 2 November 2015, <http://www.smh.com.au/business/media-and-marketing/optus-snatches-english-premier-league-rights-from-fox-sports-in-australia-20151101-gkoedn.html>.

⁸³ Telstra, *Apple Music*, <https://www.telstra.com.au/applemusic>; Boost Mobile, *Apple Music*, <http://boost.com.au/get-more/applemusic/>.

⁸⁴ <http://www.optus.com.au/shop/entertainment/music>

⁸⁵ <https://www.optus.com.au>.

⁸⁶ Vodafone, *Even more Vodafone customers to enjoy carefree travelling*, media release, 2 November 2016, <http://www.vodafone.com.au/media/even-more-vodafone-customers-to-enjoy-carefree-travelling/>.

⁸⁷ Amaysim, *International calls*, <https://www.amaysim.com.au/plans/mobile-plans/international/calls>.

compete to invest to upgrade or extend networks in a timely way. In terms of the national market, investments in network coverage and technologies are a key way in which MNOs seek to differentiate their networks. The ACCC considers that this is likely an outcome of the competitive process between different network operators responding to demand conditions.

However, while overall the retail mobile service market is exhibiting signs of effective competition, there are geographic variations in the services available to consumers and the effectiveness of competition, particularly for those consumers living in regional areas.

Further we note that while competition in the national mobile services market is exhibiting many signs of effective competition, it does not necessarily follow that the state of competition in this market could not be improved, or that it is guaranteed it will continue to exhibit such characteristics in the future. We consider that the entry of a fourth MNO into the mobile market would likely ensure that the market remained competitive with consumers being the main beneficiary of further network competition.

5.3. Mobile competition in regional Australia

While the ACCC has found that the market for mobile services is a national market, it has also found that there are variations in the mobile services available to consumers in regional Australia. This is most likely to be the case with geographic coverage, network technology and quality, and price. In this situation, the key issue is not whether such variations exist but whether they are leading to consumer detriment and whether declaration could address any such outcomes.

As noted above, the ACCC considers that mobile markets that demonstrate improvements in network coverage and technology, combined with significant declines in the effective price of calls, messages and data services over time are likely to be reasonably effectively competitive and unlikely to lead to consumer detriment. Submissions regarding the state of competition in regional areas are discussed below.

Submissions offer different views on the importance of geographic coverage and network quality to regional consumers

As referred to above, evidence provided by Telstra indicates that coverage is more important to regional consumers than to metropolitan consumers. Further, Telstra has submitted that the majority of its customers choose it as it has better coverage. However, while regional consumers do appear to strongly value coverage and in some areas, have no choice other than Telstra, not all regional consumers consider that they would require the more extensive coverage offered by Telstra. **[c-i-c]**

Optus' submission suggests that VHA's lower market share (including in regional areas) reflects its network issues of 2010, rather than lack of coverage.⁸⁸ Optus suggests that its stable market share across metropolitan and regional markets indicates that MNOs can gain regional market share by focusing on necessary investment and corporate focus.⁸⁹

Consumers and regional groups also commented on the importance of network coverage and quality. They noted that MNOs often claim they can provide coverage in a particular area, but the actual user experience in these areas suggests that coverage is not contiguous or the quality of the coverage is inadequate. Coverage can often be sporadic and result in lost calls or 'black spots'.

⁸⁸ Optus submission, pp. 12-13.

⁸⁹ *ibid*, pp. 14-15.

5.3.1. The ACCC finds that Telstra is better able to compete for consumers who require or value wide geographic coverage

As noted above, Telstra has considerably greater geographic network coverage and regional presence than Optus or VHA. This means that for the approximately 200,000 consumers who live in Telstra-only coverage areas and those who require coverage in these areas, Telstra, and potentially Boost which appears to have access to Telstra's entire coverage footprint, are the only choice of retail provider. In addition, Telstra provides wholesale services to 11 MVNOs which cover 98.8 per cent of the population, 0.3 per cent more than Optus.⁹⁰ Further, it is likely that Telstra is better able to compete for consumers who live in an area with coverage from more than one MNO, but who value the wide geographic coverage offered by Telstra.

Telstra's ability to better compete for consumers who value wide geographic coverage is reflected by its market share in metropolitan and regional parts of Australia. Information provided by the MNOs shows that Telstra has a considerably larger share of the market in regional areas than it does in metropolitan areas, as detailed in section 5.2.1 above. Further, the estimates provided by MNOs also show that the less densely populated a regional area, the larger Telstra's market share. Optus and VHA's market shares similarly reflect their respective areas of coverage. For example, Table 4 below compares market share estimates from the MNOs with approximate population densities.

Table 4. MNO market shares in different regions of Australia

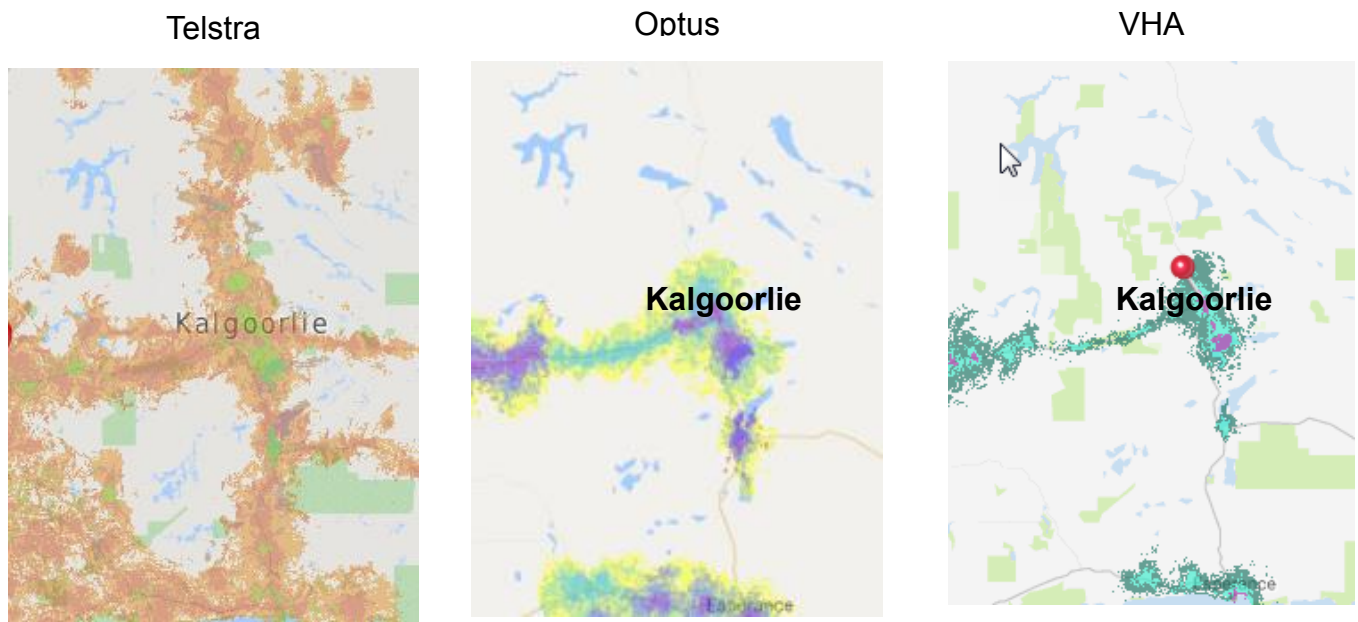
[c-i-c]

The trends shown here are unsurprising as Telstra's network extends further into the more sparsely populated areas of Australia than any other. However, it also shows that in areas where there is another provider with coverage, such as Bourke, Broken Hill and Dubbo, those operators are able to gain a similar share of services in operation as they hold in metropolitan areas.

Further, examining market share figures in particular parts of regional Australia also illustrates the importance of having continuous coverage in regional Australia. Telstra appears to be the preferred operator in major towns where all three MNOs have coverage, but where Telstra is the only operator who has continuous coverage in the surrounding areas and connecting roads. For example, each operator has coverage in the centre of Kalgoorlie. However, VHA and Optus have far less extensive coverage in the surrounding areas than Telstra. This is illustrated in the maps in Figure 7 below.

⁹⁰ Telstra main submission p 16

Figure 7 – MNO coverage in Kalgoorlie and surrounding areas⁹¹



The market share of each of the operators reflects the level of coverage they have in the area. [c-i-c]. This data suggests that an MNO can compete for consumers by establishing 'coverage islands' in more populous regional centres, but that continuous coverage in the surrounding areas will provide an MNO with a competitive advantage.

The ACCC considers that Telstra is also able to compete for consumers in regional areas who value network quality and technology. As of 2016, Telstra's 4G coverage extended to 98 per cent of the population, with VHA's and Optus' at 94 per cent.

While market share information shows that Telstra is preferred by regional consumers (in areas where other networks provide coverage), we do not consider that this is attributable only to its wide geographic coverage. As discussed above in section 5.2, there are likely to be a number of reasons that consumers in regional and metropolitan areas select Telstra as their service provider.

However, Telstra's advantage in competing for consumers who require, or value, wide geographic coverage in regional Australia, may not necessarily lead to detriment for these consumers, as discussed further below.

Impact of higher prices on regional consumers with limited network choice

The detriment that might flow from a more limited choice of service providers for consumers who live in The Telstra-only area, or require or value coverage in these areas depends on the retail offers available from Telstra and providers such as Boost. Currently, Telstra offers nationally consistent pricing, meaning that consumers who may consider Telstra as the only viable service provider still benefit from competition in metropolitan markets. Further, it appears that Boost also offers services across the entirety of Telstra's coverage footprint, while MVNOs that acquire wholesale services from Telstra, cover 98.8 per cent of the population.

However, it does appear that consumers in Telstra-only areas do generally face higher retail prices, as Telstra's retail plans are often more expensive than those of its rivals and there are fewer low-price plans on offer. This means that a price-sensitive consumer living in a

⁹¹ MNO coverage maps available on their websites.

regional area may have no choice but to effectively pay more than non-regional consumers, due to a lack of choice.

Submissions differ on the extent of and reasons for Telstra's higher prices

While submissions generally agreed that Telstra charges a higher price for its services, a number of parties expressed views on the extent of, and reasons for, Telstra's higher prices.

VHA provided a report by the Centre of International Economics (CIE), which estimates the price premium paid by a Telstra customer to be \$10 per month for a postpaid mobile plan, \$5 per month for a postpaid SIM-only mobile plan or mobile broadband plan and \$17 per month for a pre-paid mobile plan. The report finds that this 'premium' (or higher price) amounts to a total of \$1.4 billion extra paid each year for Telstra mobile phone services above the average price charged for the same services by other carriers.⁹²

Telstra submits that the CIE report is flawed and that there is no statistical analysis to support CIE's conclusion that the 'premium' is evidence of Telstra's market power.⁹³ Telstra provided a report prepared by Professor Jonathan Pincus, which outlines issues with the CIE's methodology in its pricing model and submits that the CIE has significantly overestimated Telstra's price premium and unjustifiably interpreted its estimates of Telstra's price premium as evidence of Telstra's market power.⁹⁴

Optus considers that despite Telstra's ability to charge higher prices, its pricing is still subject to competitive discipline. This is because regional users are able to benefit from competition in metropolitan areas by way of Telstra's uniform national pricing.⁹⁵ Optus further submits that Telstra's price premium has fluctuated over time, and that competitive pressure has seen the erosion of the premium.⁹⁶

Telstra's prices are higher but are subject to competitive constraint

The ACCC has found that Telstra's prices for its mobile services are generally higher than those of other MNOs and MVNOs.

The ACCC has conducted its own analysis and compared prices and inclusions in Telstra's postpaid and prepaid plans with those of other MNOs and selected MVNOs across a range of different price points.⁹⁷ We have made a number of findings from this analysis.

First, the ACCC has found that, unlike most other providers, Telstra does not currently offer unlimited voice calls in its low or medium price plans. For example, Optus offers unlimited voice and SMS on all its postpaid plans which start at \$40 a month and VHA does so on all its postpaid plans which start from \$35 per month. Further, unlimited voice and SMS are also offered on postpaid plans from MVNOs at lower prices, with Amaysim for example offering unlimited voice calls for about \$25 per month. On the other hand, Telstra does not offer unlimited voice on its lowest priced \$55 per month plan, but only on plans above \$75 per month.

Second, in the pre-paid category, which typically serves price-conscious consumers, Telstra generally charges considerably more for data than other mobile service providers.⁹⁸ For

⁹² Centre for International Economics, *Telstra's price premium: The premium paid by consumers for fixed and mobile services, prepared for VHA*, November 2016 (CIE report), p. 1.

⁹³ Telstra, *Supplementary submission to mobile roaming declaration inquiry*, 25 January 2017 (Telstra supplementary submission), p. 2.

⁹⁴ Jonathan Pincus, *Comments on the CIE hedonic regressions, prepared on behalf of Telstra*, 24 January 2017, pp. 2-3.

⁹⁵ Optus submission, p. 15.

⁹⁶ *ibid.*

⁹⁷ Very low (less than \$25), low (\$26-\$39), medium (\$40-\$59), high (\$60-\$79) and very high (greater than \$80).

example, for plans under \$25, Telstra's best value plan priced data at more than 10 times the cost offered on similar plans from Optus, VHA, and a number of MVNOs, such as Aldi. Further, for medium priced plans (in the \$40 to \$59 per month range), Telstra's data was nearly twice as much as similar Optus and VHA plans.

Thirdly, and in contrast to prepaid offers, the cost of data under most Telstra postpaid plans is similar to that offered by other providers, with the exception of 'low cost' plans (under \$25 per month).⁹⁹ The average price of data for different postpaid plans from the MNOs and selected MVNOs is shown in Table 5.

Table 5. Average postpaid plan data costs¹⁰⁰

	Price of data for low cost plans (\$/GB)	Price of data for medium cost plans (\$/GB)	Price of data for high cost plans (\$/GB)
Telstra	70	10	7
Optus	23	8	7
VHA	23	6	5
Amaysim	17	10	NA
TPG	13	4	NA

Telstra's offers are similar to other service providers for medium and high cost plans, but for consumers who want to buy low cost plans, Telstra is substantially more expensive at nearly three times the cost offered by other providers.

Finally, our analysis of Telstra's pricing data also showed that Telstra's price of data has declined in recent years, but at a slower pace than other providers. For example, Figures 8 and 9 below show this trend for medium and high postpaid plans between 2013 and 2016.

⁹⁸ Based on advertised rates on MNOs websites between October and December 2016.

⁹⁹ Based on advertised rates on MNOs websites between October and December 2016.

¹⁰⁰ Based on advertised rates on MNOs websites between October and December 2016.

Figure 8. Cost of data for medium cost postpaid plans from the MNOs¹⁰¹

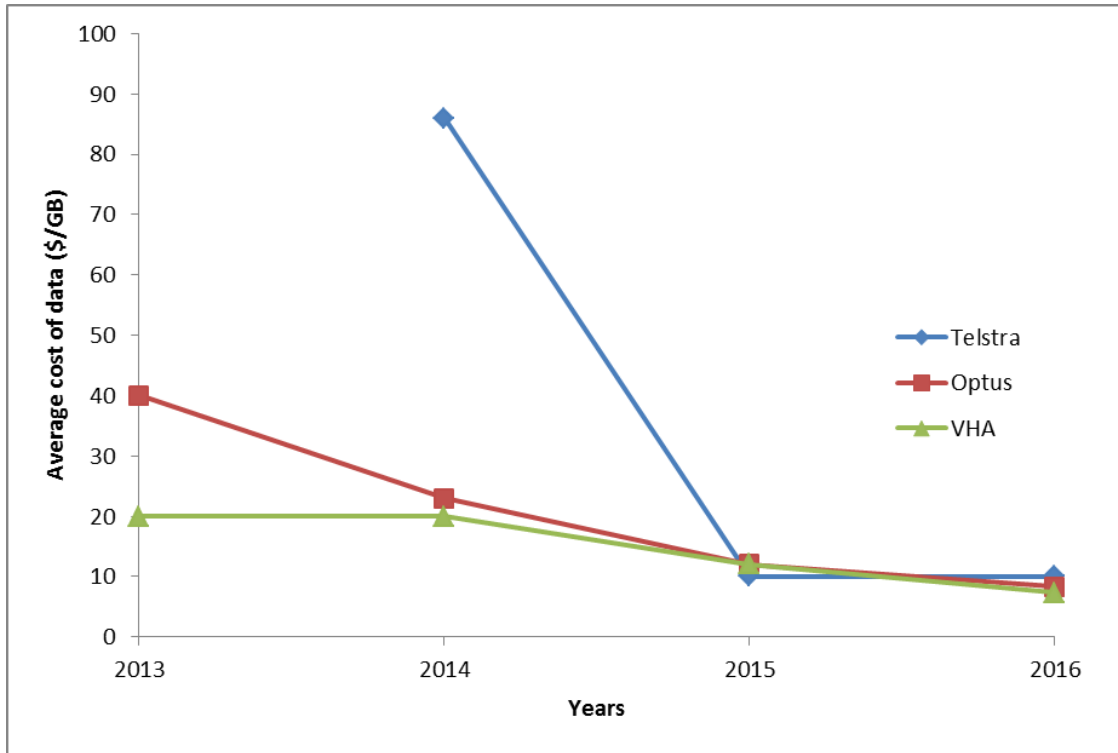
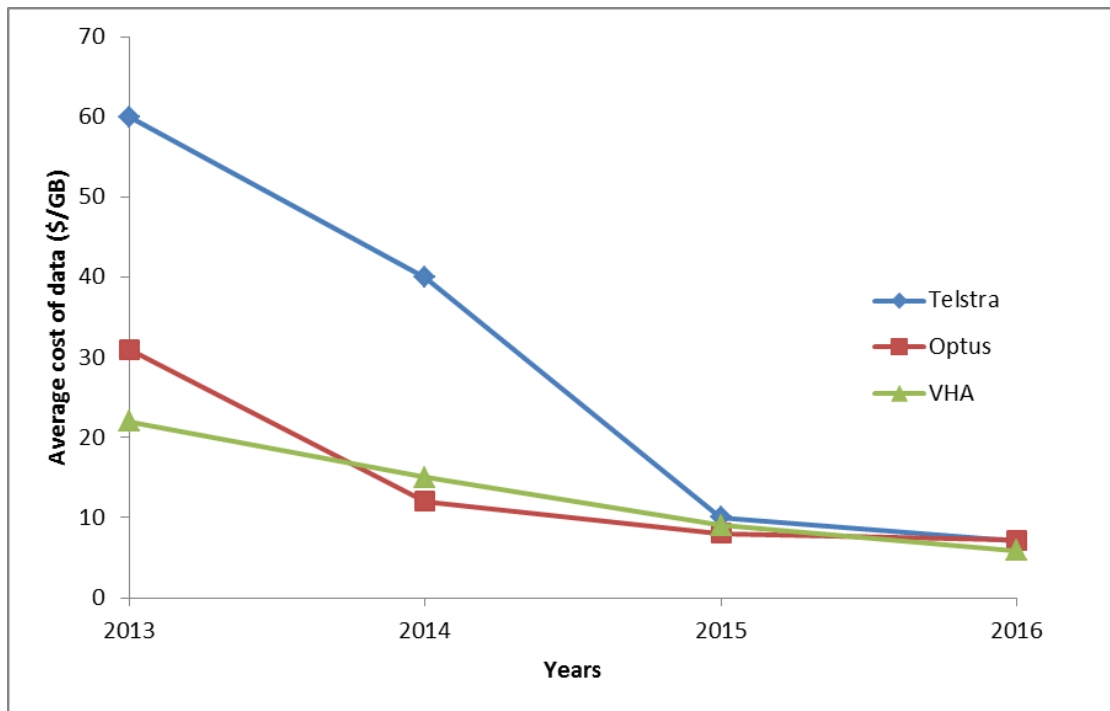


Figure 9. Cost of data for high cost postpaid plans from the MNOs¹⁰²



¹⁰¹ Based on advertised rates on MNOs websites between October and December 2016.

¹⁰² Based on advertised rates on MNOs websites between October and December 2016.

We consider that these trends suggest that Telstra’s competitors exercise some competitive constraint on Telstra, forcing it to react to industry-wide pricing. However, there is no evidence that Telstra is under pressure to decrease its prices to gain new customers.

In considering the prices and range of plans available to consumers who require or value coverage it is also important to consider plans available from Boost, who appear to offer the same or similar coverage footprint. This means that consumers who value coverage also have a range of offers available from Boost.

Between October-December 2016, Boost offered prepaid services in the very low, low and medium price categories, all with unlimited calls and texts. In each of these price categories, the average cost of data offered by Boost was close to that offered by the best value plans in this category. The cost of data from Boost in these plan categories is shown in the Table 6 below.

Table 6. Average pre-paid plan data costs¹⁰³

	Price of data for very low cost plans (\$/GB)	Price of data for low cost plans (\$/GB)	Price of data for medium cost plans (\$/MB)
Telstra	100	20	13
Optus	NA	7	7
VHA	NA	12	7
Boost	50	10	7
Aldi	20	6	6

Therefore, while Telstra’s offers for prepaid, and lower cost postpaid plans are generally higher than its competitors, the apparent availability of Boost services across Telstra’s footprint means that consumers who require or value wide geographic coverage can still access good value plans in these categories.

Despite Boost appearing to have the same or similar coverage footprint to Telstra based on publicly available information, it does not appear to stress this coverage advantage in its advertising. Boost only has a small number of services in operation (SIOs), relative to Telstra, Optus and VHA. **[c-i-c]**

Accordingly, while services from Boost are a potential alternative for price conscious consumers seeking wide geographic coverage, the ACCC considers that the availability of Boost may not be having a significant impact on the prices paid by consumers who require or value regional coverage.

As to Telstra’s pricing structure, as discussed above, the average cost of data in Telstra’s low-priced plans is substantially higher than those of its competitors, while its voice call inclusions are much lower, presenting less value for money for consumers than services offered by other mobile service providers. As a result, consumers that strongly value coverage and perceive Telstra as the only viable mobile service provider may choose a higher-priced mobile service than they would otherwise purchase if alternative providers were available.

¹⁰³ For plans offered between October and December 2016.

Competition in regional areas appears to be less effective

The ACCC has found that consumers in regional Australia who value broad geographic coverage and advanced technologies, including those that have no choice but Telstra as a viable provider, may currently be paying more for their mobile services. This is because Optus and VHA are unable to compete for these customers, and these customers may need to pay Telstra's higher national prices for some of its mobile services.

Given this, the ACCC's preliminary finding is that competition in regional mobile services areas is likely less effective than in the national market overall due to the increased likelihood that price-sensitive consumers are unable to match a preference for wide geographic coverage with a low-price plan. However, as the existence of Boost shows, lower-priced alternatives offering wide geographic coverage to consumers do exist. Low take-up rates of this service potentially show two issues:

- regional consumers' perception that Telstra is a premium service provider such that consumers are willing to pay higher prices to acquire a perceived superior service, and
- low consumer transparency about retail offers in the market, including coverage information and service quality of networks.

Overall, we do not consider that consumers who require Telstra coverage are suffering a significant detriment when compared to consumers in other areas who have wider choice of service provider. This is because Telstra's retail offers have improved in recent years and are close to its competitors in some price categories, and the fact that Boost services may be available in the Telstra only areas. Further effective competition in the national market will continue to deliver these consumers any price reductions which occur as a result of conditions in the broader market. The ACCC also observes that different retail prices between competitors is a sign of competition rather than otherwise.

5.4. Will MNOs increase their geographic coverage without declaration?

An important part of assessing the state of competition in the mobile market, and how it is likely to develop in the future, is whether MNOs are likely to increase their geographic coverage in those parts of regional Australia with only one provider, so that coverage-sensitive consumers will have more choice. The submissions we received on whether mobile networks in regional Australia exhibit natural monopoly characteristics are relevant to this assessment.

If another MNO decides that it is not strategically profitable to extend their network into Telstra-only areas, it is unlikely that infrastructure based competition will emerge in these areas, and Telstra will maintain its coverage and competitive advantage in the future.

This section therefore looks at whether Telstra's coverage advantage is likely to be eroded by infrastructure competition without declaration and the extent to which this is likely to occur. It is important to recognise that this assessment is not determinative of whether declaration is likely to promote competition, as that question will depend on whether Telstra's coverage advantage, if enduring, is causing competitive detriment in the mobile services market.

Submissions differ on the extent to which geographic coverage can be increased

VHA considered that Telstra's network exhibits natural monopoly characteristics. It submitted that Telstra's mobile network is a monopoly for over 60 per cent of the geographic mobile

coverage area in Australia, due to Australia's vast geography and low population density.¹⁰⁴ It further submitted that, while metropolitan areas can support 'several competing mobile networks', in many regional areas, it is not possible for more than one mobile network to operate at minimum efficient scale.

Both Telstra and Optus considered that a mobile operator can profitably extend a network into Telstra-only coverage areas.¹⁰⁵ Optus submitted that there are no barriers to an MNO extending its mobile network.¹⁰⁶ Telstra submitted that natural monopolies are enduring. In contrast, it submitted that its regional coverage advantage is not enduring when the other MNOs are continuing to grow their coverage into Telstra-only areas.¹⁰⁷ It also submitted that all of its coverage is part of a single integrated network and services are marketed and priced on a nationally-uniform basis.¹⁰⁸ It noted that even where direct revenues do not justify the costs of deployment in an area, the national market share gain from extending coverage can justify investment.¹⁰⁹ Telstra provided a report by Ovum to support its argument that it would be profitable for another MNO to co-locate on a proportion of Telstra's sites in the Telstra-only area.

Other parties also considered that Telstra's network exhibits natural monopoly characteristics. TPG submitted that the barriers for a new MNO are extremely high, and that declaring mobile roaming is essential to assist a new entrant.¹¹⁰ Pivotal submitted that Telstra's regional mobile network is a natural monopoly and that infrastructure competition in regional areas is unviable and inefficient.¹¹¹ ACCAN also considered that a telecommunications network in regional areas can exhibit natural monopoly characteristics.¹¹²

Submissions argue that Telstra inherited its geographic advantage

VHA submits that Telstra inherited an extensive taxpayer-funded core and transmission network and there are implicit cross-subsidies arising from Telstra's ability to utilise backhaul transmission and other assets from its existing fixed network to increase coverage at close to zero incremental cost.¹¹³ Optus and TPG make similar arguments, submitting that Telstra's dominance in the mobile market is largely due to its vertically integrated ownership of the only legacy national fixed network and associated national transmission network. They argue this has given Telstra significant cost and first mover advantages, and allowed it to more efficiently build and upgrade a regional mobile network.¹¹⁴

Telstra submits that it has no legacy advantage in tower and other physical support infrastructure in regional and rural areas because most of its investment in its current towers occurred after the entry of VHA and Optus. Telstra also submits that it does not have a legacy advantage in mobile backhaul in regional and rural areas as Telstra's NextG rollout in 2005 largely required the rebuild and replacement of its existing backhaul infrastructure and it has acquired spectrum since privatisation.¹¹⁵

¹⁰⁴ VHA submission, p 3.

¹⁰⁵ Telstra submission, p. 73; Optus submission, p. 32.

¹⁰⁶ Optus submission, p. 32.

¹⁰⁷ Telstra submission, p. 73.

¹⁰⁸ *ibid*, p.73

¹⁰⁹ *ibid*, p. 84.

¹¹⁰ TPG submission, pp. 2-3.

¹¹¹ Pivotal submission, p. 4.

¹¹² ACCAN Submission p. 13.

¹¹³ VHA Submission, p. 43.

¹¹⁴ Optus Submission, p. 32; TPG Submission, p. 2.

¹¹⁵ Telstra Submission, p. 43, 70.

5.4.1. The ACCC finds that, to a large extent, Telstra will retain its coverage advantage

In assessing whether the geographic coverage gap between Telstra and other MNOs is likely to close without declaration and the extent that it will likely occur, the ACCC considered the following information:

- information provided by the MNOs on the extent to which it would be strategically economic (taking into account the overall strategic and competitive benefit of increasing network coverage) for another MNO to deploy infrastructure in the Telstra-only area (that is, whether Telstra's network has natural monopoly characteristics), and
- MNOs' current and future investment strategies and plans – most importantly, whether Telstra is planning to continue to extend its geographic coverage, and whether other MNOs will further close the coverage gap.

Although this information would not help in precisely defining an area in which a network may exhibit natural monopoly characteristics, (i.e. areas which would be most efficiently served by one network), it could provide an indication of the area where infrastructure competition is unlikely to occur, that is, where Telstra would remain the only MNO.

Viability of operators matching Telstra's geographic coverage

Information provided by MNOs supports the view that the costs of extending a mobile network in the less densely populated areas of Australia are considerably higher than the costs of doing so in metropolitan areas. For example, information from Telstra suggests that co-locating on sites in regional areas are **[c-i-c]** more expensive than in metropolitan areas, and co-locating in rural and remote areas is about **[c-i-c]** more expensive than in metropolitan areas.¹¹⁶ Building a new site in regional areas is around **[c-i-c]** more expensive than in metropolitan areas, and building a new site in rural and remote area is **[c-i-c]** as in metropolitan areas.¹¹⁷ Combined with the fact that potential returns from deploying infrastructure become progressively lower as a network extends into less populated areas, it is logically plausible that in many remote areas of Australia, it may not be viable for there to be more than one mobile network.

Telstra's Ovum report appears to assume that a second MNO can co-locate on all of Telstra's existing sites in the Telstra-only area due to the existing facilities access regime. The report also appears to assume that a second MNO would consider it profitable to deploy infrastructure even if it does not recover the capital cost of funding the investment.¹¹⁸ Even taking these favourable assumptions into account, Ovum found it would not be profitable for a second MNO to replicate Telstra's infrastructure in a significant part of the Telstra-only area. In summary, the Ovum report found that: **[c-i-c]**

Telstra considers that in the absence of declaration, other service providers have incentives to close the 'coverage gap' in order to increase market share, and to gain a share of the profits attributed to broader coverage. While direct revenues flowing from regional areas may not justify the cost of deployment to extend coverage, there will be indirect revenue gains by being able to compete for consumers outside of regional areas, but who value wider coverage.¹¹⁹

¹¹⁶ **[c-i-c]**

¹¹⁷ **[c-i-c]**

¹¹⁸ Ovum report, p. 4.

¹¹⁹ Telstra Submission, p. 53.

the direct revenues that it would be able to earn from consumers located in the newly covered area and does not consider indirect revenue or market share gains more widely. This differs from the assumptions made by Ovum. The report for VHA by Derek Ritzmann also finds that mobile networks in the area covering the least densely populated 20 per cent of the population are natural monopolies.¹²⁰

After comparing the Ovum findings and VHA's modelling, the ACCC considers Telstra's assumption that an MNO would take into account indirect revenue and market share gains in the wider national market in considering the profitability of deploying new infrastructure is reasonable. However, the ACCC does not consider it is reasonable to assume that the second MNO could co-locate on all of Telstra's existing sites in the Telstra-only area and would find it always profitable to deploy infrastructure even if it cannot recover the cost of capital. For these reasons, the ACCC considers that it is likely that a second network operator could profitably deploy infrastructure in Telstra-only areas, but it is unlikely to be able to do so to the extent suggested by Telstra.

Investment plans by the MNOs

Observable trends in historical investments and future investment plans by the MNOs provide further indications as to whether infrastructure competition in the Telstra-only area is likely to emerge, and if so, to what extent. The ACCC sought information from all three MNOs on their historical investments and planned investments. In particular, the ACCC considers it important to understand whether Telstra is likely to extend its coverage advantage with future investment and whether Optus is likely to close the coverage gap by extending into the Telstra-only area.

Based on information on the MNOs' historical investments and changes in coverage footprints, the ACCC has found that:

- Telstra has consistently expanded its overall network footprint since it launched its 3G network in 2006. However, there appears to have been a drop in coverage expansion since 2014.
- While data suggests that the bulk of Optus' historical investments from 2008 and 2016 appear to have been devoted to increasing site density in metropolitan areas, there appears to be fairly significant expansion in Optus' geographic coverage in recent years, [c-i-c].
- Limited data suggests that VHA's overall network footprint did not change significantly from 2014 to 2016. It appears that VHA has been focusing on the roll out of its 4G network over its existing footprint.

Apart from investments as part of co-investment or subsidy programs such as the Mobile Black Spot Program (which is discussed in more detail below), Telstra has announced that it will spend \$350 million over the next five years to expand coverage and capacity as well as improve network performance.¹²¹ Telstra was unable to provide any specific information on where this investment will be made. As such, it is unclear whether any of the investment will be used to extend Telstra's current coverage footprint or improve coverage in the Telstra-only area. In addition, Telstra has announced that it will roll out its 4G network to cover 99 per cent of the population by June 2017, which will mean that part of the Telstra-only area will receive upgrades to 4G.¹²²

¹²⁰ Dr Derek Ritzmann, *Domestic Mobile Roaming Declaration Inquiry – Expert Report, prepared for VHA*, 1 December 2016 (Ritzmann report), p. 6.

¹²¹ Telstra Submission, p. 14.

¹²² *ibid*, p. 67.

The ACCC has not received other detailed investment plans from Telstra other than a general commitment that it will continue to invest in regional areas in the absence of declaration.

[c-i-c] Optus indicated that it will continue to invest to compete with Telstra in coverage.

[c-i-c]

On the basis of the information available, the ACCC considers that:

- There is insufficient evidence to suggest that Telstra will significantly extend its network footprint in the absence of co-investment or subsidies from governments. However, there is some evidence that Telstra may continue to invest in improving its current network through technology upgrades and capacity expansion, including in the Telstra-only area, where needed.
- Optus is continuing to invest to compete with Telstra on coverage in regional areas. While the ACCC considers it unlikely that Telstra's overall geographic coverage can be matched by Optus, there may be a gradual closing of the coverage gap over time.
- More importantly, there is likely to be ongoing investment from Optus to improve network performance in regional areas. Such investments may prompt Telstra to respond by also making investments to improve its coverage in areas targeted by Optus.

Based on current information, the ACCC's preliminary view is that there is evidence that coverage-based competition may continue. Such competition is not focused on the size of geographic coverage, but rather on improving the quality of networks in areas where coverage exists.

Telstra has made significant investment in regional infrastructure since privatisation

The available information shows that Telstra has made significant investment in deploying and upgrading its mobile network infrastructure since privatisation, particularly by way of its Next G (3G) network upgrade.

In order to support its Next G deployment, Telstra had to undertake extensive infrastructure upgrades of its mobile towers and backhaul, investing around \$1 billion.¹²³

We accept that Telstra has benefited from having been a government-owned legacy infrastructure provider to some degree. For example, while it has needed to upgrade tower sites and transmission links, it is likely that the costs of such upgrades were lower than establishing new sites or links. However, the scale of Telstra's investment in its mobile network since competition was introduced means that it may not have been provided with a significant advantage in building its regional mobile networks.

The question of how Telstra was able to establish this advantage is less relevant to the decision of whether declaration would be in the LTIE. The proposition that its position as the previous government-owned fixed service provider may have facilitated the rollout of its mobile network is not, on its own, a reason to declare the service.

MNOs' participation in government co-investment programs

It is likely that all three MNOs will continue to invest in mobile infrastructure as part of government co-investment programs, such as the Federal Government's Mobile Black Spot Program or State and Territory subsidy programs. Planned investments as part of the Mobile Black Spot Program include:

¹²³ Telstra submission, *Statement of Michael James Wright*, 1 December 2016, p. 11.

- Telstra’s contribution of up to \$240 million to Rounds 1 and 2 of the Mobile Black Spot Program to build a total of 577 base stations¹²⁴
- Optus’s contribution of \$36.4 million under Round 2 of the Program to build 114 base stations,¹²⁵ and
- VHA’s contribution of \$21.6 million under Rounds 1 and 2 of the Program to build 74 base stations.¹²⁶

The ACCC considers these co-investment programs play a key role in enabling the expansion of and improvement in mobile coverage in areas where commercial incentives to invest may be weak. The ACCC recognises that these programs are instrumental in promoting the government’s policy objectives in improving telecommunications infrastructure for regional consumers and promoting digital inclusion.

However, the ACCC considers that currently, the potential for these programs to also promote competition for mobile services may be limited. Rather, it is possible that in some circumstances these programs may provide an MNO with an advantage in competing for consumers in a particular regional area. In particular, it appears that given Telstra’s wider geographic coverage, it is best placed to benefit from subsidies in the future.

In these circumstances, the ACCC supports the use of measures in such subsidy programs being designed to promote competition, such as including open access or roaming requirements on infrastructure funded byof subsidies or co-investment.

¹²⁴ Telstra submission, p. 9; Telstra media release, *Telstra answers rural communities call for mobile coverage*, 1 December 2017, accessed at 4 May 2017 at <https://www.telstra.com.au/aboutus/media/media-releases/telstra-answers-rural-communities-call-for-mobile-coverage>.

¹²⁵ Optus media release, *Optus to build 114 sites in government black spot program second round funding*, 1 December 2016, accessed on 4 May 2017 at <https://media.optus.com.au/media-releases/2016/optus-to-build-114-sites-in-government-mobile-black-spot-program-second-round-funding/>.

¹²⁶ Department of Communications and the Arts, Mobile Black Spot Program, available at <https://www.communications.gov.au/what-we-do/phone/mobile-services-and-coverage/mobile-black-spot-program>; VHA media release, *Regional telco users short-changed on mobile black spot funding*, 1 December 2016, accessed at 4 May 2017 at <http://www.vodafone.com.au/media/regional-telco-users-short-changed-on-mobile-black-spot-funding/>.

6. Will declaration promote competition in the relevant markets?

Key points

- The ACCC has assessed whether declaration will promote competition in the upstream wholesale market for mobile roaming services, and the downstream national mobile services market.
- The ACCC does not consider that declaration is likely to promote competition in the upstream or wholesale market, as it is unlikely to change the ability of MNOs to provide roaming services and therefore competition for such services is expected to remain unchanged with declaration.
- The ACCC considers declaration has the potential to promote competition in the downstream retail market to some extent, but that any such effect will likely be modest. Further we consider the declaration has the potential to leave some consumers worse off. Therefore, we do not consider that declaration will promote competition to such an extent that it supports a decision to declare a mobile roaming service.

Having considered the state of competition in the relevant markets, the ACCC must assess whether declaration will promote competition in those markets. In order to make this assessment, the ACCC has considered the likely future state of competition in the relevant markets with and without declaration.

6.1. Will declaration promote competition in the wholesale roaming market?

6.1.1. Submissions did not consider declaration would significantly affect the wholesale roaming markets

Few parties commented on the effect of declaration on the wholesale roaming market. Telstra submitted that declaration will reduce infrastructure-based competition which in turn will reduce competition for wholesale mobile services by reducing the competing coverage areas in which MNOs offer wholesale services.¹²⁷ Optus submitted that it did not anticipate that declaration of a mobile roaming service would have any material impact on competition for wholesale mobile services.¹²⁸ Conversely, VHA submitted that declaration would lead to competition for the supply of wholesale roaming services in areas served by two MNOs, as they would compete to supply the third access seeking MNO knowing that they are required to supply wholesale mobile roaming services.¹²⁹

6.1.2. The ACCC's preliminary finding is declaration is unlikely to promote competition in the wholesale roaming markets

Generally, the extent to which declaration will promote competition will be assessed in the retail market where declaration is most likely to deliver benefits. However, a roaming service is a wholesale service that is provided to other MNOs and as such, declaration would also have an impact on competition for roaming services in this market.

¹²⁷ Telstra submission, p. 112.

¹²⁸ Optus submission, p. 30.

¹²⁹ VHA submission, p. 62.

Having considered submissions from stakeholders and assessed information obtained in response to our inquiries, we have found that declaration is unlikely to significantly affect competition in the wholesale roaming market. However, consistent with the ACCC's assessment of the state of competition, the effect of declaration on the provision of wholesale roaming services depends on where these services are offered.

For the purpose of its analysis, the ACCC considered whether declaration of a roaming service should be confined to the Telstra-only coverage area or to the Telstra-only and Telstra-Optus coverage areas.

If the ACCC were to declare a service in the Telstra-only area, it appears likely that it would remove incentives for Optus to invest to extend coverage into the declared area. If this were the case, declaration could result in the area in which competitive roaming services could be negotiated being reduced, thereby reducing competition in the wholesale roaming market. However, the ACCC has found that Optus is unlikely to invest to significantly expand its network into Telstra-only areas. For this reason, assuming that declaration was limited to the Telstra-only area, we do not consider that the effect of declaration on competition in this market would be material.

If the ACCC were to declare a roaming service in the Telstra-only and Telstra-Optus areas, this may promote competition in the wholesale roaming market to some degree as both Telstra and Optus may compete to provide a roaming service to access seekers, given that at least one MNO would be required to provide the regulated service. However, for similar reasons as discussed above, we do not consider that the effect on competition would be significant.

More broadly, declaration of a roaming service will not mean that MNOs will be better able to supply wholesale services than they currently are, as declaration would not increase the actual area their networks cover (although we note it will increase the area over which MNOs, which took advantage of a roaming service, could provide retail services). Therefore, the ACCC considers that the competitive impact of declaration on this market is not likely to be significant.

Declaration would likely promote better outcomes in the market, in terms of pricing and supply of roaming services as it would require Telstra (or Optus, depending on the service description) to supply roaming services at a determined rate. However, the ACCC considers the effect of declaration on competition would most likely be seen in the outcomes in the downstream retail market.

6.2. Will declaration promote competition in the retail market for mobile services?

Stakeholder views differ on whether declaration will promote competition

As noted above, Telstra and Optus both submitted that there is currently strong competition for mobile services, and do not consider that declaration will promote competition.¹³⁰ Telstra also submits that coverage is a key competitive driver, and that declaring roaming will remove this, and will result in less dynamic competition, less service differentiation and innovation, particularly in regional areas.¹³¹ Optus submitted that while declaration will increase choice for consumers, it may lead to higher retail pricing for regional consumers (see below discussion) and would have little, if any, impact on metropolitan consumers.¹³²

¹³⁰ See for example, Telstra submission, pp 4-7, 81-83; and Optus submission pp 3-4, 8-14.

¹³¹ Telstra submission, pp 49, 55-56.

¹³² Optus submission, p 14.

VHA considers that declaration will promote competition in the national mobile services market.¹³³ It submits that declaration will reduce non-price competition based on absolute coverage, it will not eliminate coverage-based competition in the areas where declaration does not apply.¹³⁴ It also submits that there will be greater price based competition (see below), and that there will be greater non-price competition based on other features such as network quality, coverage depth.¹³⁵

Summary of ACCC's views that there is insufficient evidence that declaration will improve the current state of competition to a significant extent

The ACCC has found that the national retail market currently exhibits signs of reasonably effective competition. However, it has also found that there is less effective competition in the provision of mobile services in regional areas, with some consumers in regional areas paying higher prices because they value or require Telstra coverage. However, we have found that the detriment to consumers from limited choice and higher prices at some price points is not substantial.

It is possible that declaration could promote competition in the national retail market to a degree. However, we do not consider that these effects will be significant. Further, we consider that if roaming is declared, some consumers could in fact be worse off. Taking into account the fact that the retail market is currently exhibiting signs of reasonably effective competition, we do not consider that declaration will promote competition in the retail market to a significant extent such that it would support a decision to declare a mobile roaming service.

In summary, the ACCC has reached this view because:

- Without declaration, the national mobile services market is currently exhibiting signs of reasonably effective competition.
- Declaration of a mobile roaming service will allow Optus and VHA (and potentially TPG) to increase their geographic coverage, and will remove a factor over which MNOs currently differentiate their services. This will improve their ability to compete with Telstra for consumers who value wide geographic coverage, in both metropolitan and regional areas.
- However, when considered in the context of the national market, the overall impact that this will have on competition is not likely to be significant.
- Therefore, it seems unlikely that declaration of a mobile roaming service would have a large impact on the national mobile services market, as it will not, on its own, significantly change the ability of Optus and VHA (and TPG) to compete in this market. The ACCC considers that even with declaration, Telstra is likely to maintain its strong position, due to the perception that it offers high quality and reliable services.
- Further, it appears unlikely that declaration will lead to better outcomes for consumers in the form of lower retail prices than the market would deliver without declaration. The ACCC notes that declaration has the potential to lead to some reduction in prices for those who value coverage, but do not have a choice of provider other than Telstra. However, declaration could also lead to higher prices for these, and other consumers, in some circumstances.
- Declaration of a mobile roaming service in regional Australia is unlikely to significantly reduce barriers to entry for a new MNO.

¹³³ See for example, VHA submission p 6-7.

¹³⁴ VHA submission, p 78.

¹³⁵ VHA submission, pp 80-81.

The following looks at each of these issues in more detail below.

6.2.1. How will declaration affect MNOs' ability to compete for metropolitan and regional consumers?

Telstra's greater network coverage provides it with an advantage in competing for consumers who require wide geographic coverage. This group of consumers includes those who live or work in, or who frequently travel through, the Telstra-only area. It also provides Telstra with an advantage in competing for consumers who live in regional Australia outside of Telstra-only areas, and those who live in metropolitan areas and value having wide geographic coverage.

Telstra has submitted that declaration will, 'neutralise any competitive advantage which an MNO has over its competitors'.¹³⁶ The ACCC considers that this is relatively uncontentious. Declaration of a mobile roaming service will result in each of the MNOs having more equal network coverage, which will in effect, remove coverage as a factor over which MNOs compete. If the ACCC were to declare a service in the Telstra-only area, Optus would be able to equal Telstra's coverage, and if the ACCC is to declare a roaming service in the Optus-Telstra areas, all three MNOs would have equivalent network coverage.

Competition for regional consumers

If each MNO is able to achieve equivalent coverage through declaration, we consider that it would promote competition for mobile services in regional Australia, which we currently consider is less effective than in the national market. In particular, it would increase the choice of services available to regional consumers who value or require coverage in the Telstra only area. It would not however, result in more coverage overall.

However, we do not consider that this would necessarily lead to better outcomes for these consumers for three key reasons. Firstly, these consumers already benefit from competition in the national market through nationally consistent prices. This means that they are able to access relatively competitive prices from either Boost or Telstra.

Secondly, while coverage is relatively more important for regional consumers than metropolitan consumers, regional consumers also choose a service provider for other reasons, such as the quality of the service.

For those consumers who live in regional Australia, but who do not require coverage in the Telstra-only area, the breadth of geographic coverage offered by an MNO is likely to be only one reason why they select Telstra. The evidence from submissions suggests that the quality of Telstra's network is also a factor that consumers will consider and is likely to contribute to Telstra's leading market share in these areas. Therefore, we consider that if a mobile roaming service was declared, Telstra may retain its market share advantage in regional Australia.

Third, for the reasons discussed further below, the ACCC consider it uncertain whether declaration will lead to improved pricing outcomes for consumers, and may lead to poorer quality of service, or reduced coverage for some consumers. As discussed in more detail in section 8.2.2 below, removing coverage as a differentiating factor may also impact MNOs' incentives to invest to compete on coverage and quality. This could result in consumers in some parts of regional Australia no longer gaining the benefit of network expansions and quality improvements that coverage based competition is currently delivering. However, we note that any such effects are likely only to occur in areas where a roaming service is

¹³⁶ Telstra submission, p. 50.

declared, and outside of this area, investment in network upgrades and improvements in depth of coverage would be likely to continue.

Competition for metropolitan consumers

Declaration also has the ability to improve the ability of Optus and VHA to compete in metropolitan areas, as they will be more attractive to consumers who value wide geographic coverage but who live in populous areas. However, those consumers are also likely to choose a service provider for a range of reasons which may include coverage. For those consumers who are Telstra customers, they are unlikely to 'switch' providers if other MNOs are able to offer the same coverage levels as a result of a declared roaming service.

Overall, it does not appear that geographic coverage in Telstra-only areas is a particularly important consideration for a large number of metropolitan consumers as may be demonstrated by the market share figures in Table 1. As such, it is not clear that declaration would significantly improve Optus' and VHA's ability to compete with Telstra for metropolitan consumers in the national mobile services market.

Instead, the ACCC considers that Telstra is likely to maintain a competitive advantage, at least for some time, due to the perception it offers high quality and reliable mobile services.

In addition, removing coverage as a differentiating factor has the ability to lead to worse outcomes for some consumers. Currently, consumers who live in more populated areas, outside of the Telstra-only area, are able to select a service which provides them with the level of coverage they require or value. For example, those who want extensive coverage, and are willing to pay more, are able to select a service from Telstra. Those who do not value wide geographic coverage to the same extent, and are less willing to pay for extensive coverage, may select Optus or VHA. In this way the market is currently able to meet the different preferences of the majority of consumers who live in areas where there is competitive coverage by all three MNOs.

However, if we declare a service, each MNO will have the same level of coverage. As discussed in further detail below, while it is possible that declaration will lead to Telstra lowering its retail prices, it may also lead to Optus and VHA increasing retail prices as they would be able to offer a higher quality product. If this is the case, it is possible that consumers who do not value coverage will no longer have the option of selecting a cheaper product with less coverage, and will be worse off as a result.

VHA has argued that removing coverage as a differentiating factor has the potential to increase competition based on other aspects of a mobile service, in particular, price and quality of services offered outside of the declared area. The ACCC has considered the retail pricing implications of declaration below, and it finds that declaration has the potential to lead to worse pricing outcomes for some consumers. Further, we consider that declaration is unlikely to improve competition based on quality of service outside of a declared area. This is because, as discussed above in section 5.2.3 competition based on network quality is already vigorous. MNOs have made significant investment in their networks in metropolitan areas, and have upgraded their network technology. Further, it appears that they will continue to do so in the future, with each of the MNOs announcing that they are already trialling 5G services.¹³⁷

Conclusions on declaration and MNOs' ability to compete

The ACCC does not consider that there is evidence that improving the ability of Optus and VHA to provide mobile services in regional Australia will significantly improve competition in

¹³⁷ See, for example, Telstra submission p 15.

the national market for mobile services. Instead, the available evidence suggests that any pro-competitive effects are likely to be modest, and there are risks that declaration will lead to less competition and worse outcomes for some consumers in the national market for mobile services.

6.2.2. The effect of declaration on retail prices

The ACCC considers that the effect of declaration on retail prices is uncertain but that there is evidence to suggest that declaration may lead to worse outcomes for consumers in terms of retail pricing than the market would deliver without declaration. Stakeholder submissions on this issue and the ACCC's reasons for its views are outlined below.

Stakeholders disagree on the pricing implications of declaration

Stakeholders expressed a range of views on how declaration may affect retail pricing. Telstra submitted that it was possible that mobile service providers would 'de-average' their prices and introduce location-based pricing, by, for example, charging additional fees for accessing mobile services when roaming onto another network.¹³⁸ Its supporting report from Professor Yarrow commented that declaration would likely induce pricing disaggregation between low density and high density areas, which would mean that, in effect, prices for consumers in regional areas will increase.¹³⁹

Optus considers that declaration will likely lead to one of two outcomes: either MNOs' national average pricing could increase or mobile service providers will adopt disaggregated regional pricing, such that those in areas where roaming may be declared paid more for mobile services.¹⁴⁰

ACCAN submitted that it would be highly likely that consumers would pay for roaming access in the way of increased plan pricing at the national level or through a surcharge when roaming. ACCAN considered that this increase in prices may cancel out any benefits of increased competition from declaration.¹⁴¹

VHA, on the other hand, submitted that declaration would increase price competition, as Telstra would become more susceptible to price competition from Optus and VHA.¹⁴² It considered that uniform national pricing does not effectively constrain Telstra and that its natural monopoly in regional areas allows it to charge more for mobile services. VHA also submitted that it could offer an optional premium coverage product which charged extra for the ability to access services in regional areas.¹⁴³ However, it does not use such a structure under its current roaming agreement with Optus and this suggests that such a structure is unlikely to emerge if roaming was declared. However, it noted the pricing structure adopted by MNOs will depend on how regulated rates are determined.¹⁴⁴

Further, VHA also submitted that declaration does not have the potential to disadvantage any groups of consumers. In support of VHA, Richard Feasey argued that it is unlikely that consumers who do not value coverage would be worse off as a result of declaration because in a competitive market, consumers are not generally obliged to purchase services which they do not value. Mr Feasey considered that the possibility of the three MNOs collectively

¹³⁸ *ibid*, p. 54.

¹³⁹ George Yarrow, *Report to ACCC domestic mobile roaming inquiry, prepared for Telstra*, 1 December 2016, pp. 21-23.

¹⁴⁰ Optus submission, p. 17.

¹⁴¹ ACCAN submission, pp. 21–22.

¹⁴² VHA submission, p. 85.

¹⁴³ VHA supplementary submission, p 45.

¹⁴⁴ *ibid*, pp. 46-48.

agreeing to withhold products which would otherwise better suit those who did not value coverage appears to be far-fetched.¹⁴⁵

However, as noted above, both Optus and Telstra considered it possible that declaration could lead to an increase in the average retail prices of mobile services.

The ACCC finds that any improvements in retail pricing will likely be minor

It is difficult to determine exactly how retail pricing of mobile services will change if the ACCC were to declare a mobile roaming service. We consider that there are a number of ways MNOs may respond to a decision to declare mobile roaming, which make any such assessment uncertain. However, the ACCC considers that no matter which way MNOs respond, any improvement in the prices available to consumers who require or highly value geographic coverage is likely to be minor. In addition, we consider that there is the potential for some consumers to be worse off in terms of retail pricing as a result of declaration.

Telstra and Optus submitted that it is likely that MNOs would respond to declaration in one of two ways. MNOs could decide to maintain national uniform pricing and a single coverage product. Alternatively, they may decide to de-average their prices and introduce location-based products.¹⁴⁶

The ACCC considers that it cannot determine how MNOs will respond to declaration, but on the evidence provided so far, it does seem likely that the industry will respond in one of the two ways suggested by Telstra and Optus. As noted above, we consider that under either outcome, little benefit would flow to consumers, as discussed below.

Nationally consistent pricing

The first option identified in submissions is that MNOs will maintain nationally consistent retail pricing. If this occurs it seems likely that Optus' and VHA's average prices will increase, and Telstra's will fall slightly. This is because if Optus and VHA acquire access to a declared roaming service, they will face higher costs to provide wide geographic coverage due to access charges. Further, they will also be offering a better product than they do now and could therefore expect that consumers would have a greater willingness to pay for their services. The ACCC notes that both Telstra and Optus consider that this is a possible outcome of declaration.

At the same time, Telstra may lower its retail prices to some extent, in order to better compete with Optus and VHA, as it will no longer have a coverage advantage. However, as discussed earlier, it is likely that consumers are currently willing to pay more for Telstra services because there appears to be a perception that it offers higher quality services and greater reliability. The ACCC also notes that it is possible Telstra's higher prices may in part be attributed to its higher network costs due to its extensive regional network and the high costs of serving regional areas. As a result, the ACCC considers that it is possible that declaration may not lead to Telstra lowering its prices to any significant extent.

The ACCC acknowledges Mr Feasey's argument that in a competitive market, consumers are generally unlikely to be forced to buy products that they do not value. However, the ACCC considers that it is possible that MNOs will continue to offer the same level of coverage across all retail plans and maintain nationally consistent pricing. They may do this because they prefer to use a simpler retail plan structure, or because it will lead to higher profits. Therefore, the ACCC does not agree with Mr Feasey's assertion that it is 'far-fetched' that the MNOs would not continue to offer the same level of coverage across all plans.

¹⁴⁵ Richard Feasey, *Issues arising in relation to the ACCC's domestic roaming declaration enquiry*, prepared for VHA, 5 December 2016, pp. 27–28.

¹⁴⁶ Telstra submission, p. 5; Optus submission, p. 4.

Overall, this would see regional consumers paying slightly less than they currently do, but would likely see average national prices increase. In particular, those consumers identified above, who do not value regional coverage and instead choose Optus or VHA because they offer lower priced services, will likely pay higher prices as a result of declaration.

Location-based or de-averaged pricing

Another possible outcome of declaration is that MNOs may move away from nationally uniform pricing. Telstra and Optus submitted that this could be implemented through increased prices for services with coverage in areas where roaming is declared, or additional retail charges for using mobile services in roaming areas. The ACCC considers that it is possible that MNOs will move away from nationally uniform pricing. It notes that when Hutchison had a roaming agreement with Telstra, Hutchison charged its customers extra to roam onto the Telstra network. However, this would be a fairly significant change from the way mobile services have been provided and priced for many years, which may mean that MNOs are reluctant to adopt such a model.

If MNOs move to offer two separate products, one with limited geographic coverage and a more expensive plan with greater coverage, or charge consumers more to use their services in regional areas, it would lead to higher prices for the use of mobile services in regional areas. Overall, this would disadvantage regional consumers and those who value coverage.

Conclusions on retail pricing

We cannot determine the pricing structure that MNOs would adopt if roaming were declared. However, it does not appear that under any scenario, retail prices for mobile services would decrease substantially in response to declaration. We accept that it is possible that MNOs could respond to declaration in different ways to those suggested during the inquiry, and welcome submissions on this issue. However, we have not yet been provided with evidence that would support a conclusion that the industry would adopt a pricing outcome which would lead to significant benefits for mobile consumers. If the ACCC were to declare a roaming service, setting regulated prices would pose many difficulties, and it appears likely that access charges would be high. This too could lead to increased retail prices for some groups of consumers.

Further, as discussed above, the ACCC considers that consumers who require or value coverage already benefit from competition in metropolitan areas due to nationally consistent pricing. The ACCC acknowledges that Telstra's retail prices are higher than those of its competitors for some spend categories. However, as discussed in 5.3.1, for medium and higher spend plans, Telstra's offers are comparable to those of its competitors and Boost offers good value prepaid plans.

6.2.3. Will declaration facilitate new entry?

In the discussion paper, the ACCC sought views on whether declaration of a mobile roaming service would promote competition through lowering barriers to entry for a new MNO.

TPG submits mobile roaming will assist it to roll out a mobile network

TPG submitted that it is interested in becoming the fourth MNO in Australia, and that obtaining a mobile roaming agreement is critical to enable new entry to build out its network and supply services that will be of an 'acceptable quality' to early adopters who the new entrant will need to build a successful business.¹⁴⁷

¹⁴⁷ TPG submission, p. 1.

On 12 April 2017, TPG acquired 2x10 MHz of 700 MHz spectrum, and announced that it would build a mobile network that would cover 80 per cent of the population within three years.¹⁴⁸ We note that TPG's existing infrastructure assets mean that it is well-placed to achieve this.

Regional mobile roaming unlikely to significantly reduce barriers to entry in Australia

Internationally, mobile roaming has been regulated to facilitate the entry of new MNOs by requiring existing MNOs to offer roaming across a wide coverage footprint, including in metropolitan areas. This has allowed a new entrant to supply services which offer competitive coverage and build their customer base while rolling out their own network. Such regulation has generally occurred in markets where the regulator had identified issues with competition in retail markets and has generally only applied for a limited time period.

In the discussion paper, the ACCC sought submissions on the relevance of international approaches to the regulation of domestic mobile roaming. Telstra, Optus and VHA each provided submissions on this issue. The ACCC has also further considered examples of international jurisdictions that have considered whether to mandate mobile roaming, in terms of the structure of the mobile services markets in those jurisdictions and the outcomes of the roaming decisions.

Telstra made the following three points:

- regulated roaming can harm incentives to invest in infrastructure and even more so when prices are regulated
- domestic roaming has been implemented to address unique circumstances of international mobile services markets which do not apply to Australia, and
- there is no clear evidence that interventions overseas have achieved the competition and investment outcomes that regulators were seeking to deliver.¹⁴⁹

VHA submitted that regulation tends to be imposed in countries that have a large land area or areas of low population density, such as New Zealand, France, Spain, Norway, Canada and the United States. VHA considered that mandated roaming in New Zealand, the United States and Canada has facilitated materially greater retail competition and that mandated roaming has had no discernible impact on network investment. In fact, all of the MNOs in the United States, Canada and New Zealand show a long-term trend of higher levels of capital intensity than Australia. VHA provided evidence highlighting a marginal increase in capital intensity in Canada and significant increased capital intensity in France and the United States, following decisions to mandate roaming.¹⁵⁰

Optus considered that roaming has only been mandated overseas to address two primary issues – regional licensing regimes and barriers to entry for new operators. Optus submitted that neither of these situations exists in Australia.¹⁵¹

Overall, the ACCC considers that it is difficult to compare the mobile services markets of other countries with the Australian market. Each market has their own distinctive structure and competition issues, and the reasons for a regulator choosing to mandate, or not mandate, roaming are based on the features of those markets at the time of consideration.

¹⁴⁸ Sydney Morning Herald, *TPG to build own mobile network after \$1.2b spectrum splurge*, 12 April 2017; <http://www.smh.com.au/business/media-and-marketing/tpg-to-build-own-mobile-network-after-12b-spectrum-splurge-20170404-qvd6xr.html>.

¹⁴⁹ Telstra submission, p. 76.

¹⁵⁰ VHA submission, p. 57.

¹⁵¹ Optus submission, p. 24.

For example, the French telecommunications regulator ARCEP mandated that the large incumbent, Orange, provide roaming to a new market entrant, Free Mobile. As part of the agreement, Free Mobile was required to meet investment conditions which included population coverage requirements by certain dates. ARCEP also made a decision to regulate roaming as it considered that a fourth entrant was required to encourage competition in the retail mobile market. The ACCC notes that ARCEP has since indicated it intends to terminate the roaming agreement to stimulate investment in 4G.

In 2014, the Canadian Radio-Television Commission (CRTC) commenced an inquiry into the wholesale mobiles market to determine whether it was sufficiently competitive and whether regulatory measures were required. This was in response to concerns that the three incumbents, each with large network footprints, were discriminating against smaller players in the wholesale roaming market.

The CRTC's inquiry found there was discrimination against smaller wireless players in commercial roaming agreements, that wholesale access to the three national MNOs' networks was essential to their competitors and that the CRTC would need to regulate roaming.¹⁵² It commenced a further inquiry into the regulatory framework for wholesale mobile services in 2015, and set interim prices to apply while the national MNOs file proposed tariffs for the final rates. The CRTC issued its decision on 1 March 2017, deciding that mandated wholesale roaming should provide incidental, and not permanent, access to the incumbents' networks.

These two select examples illustrate that the circumstances under which roaming has been mandated in other jurisdictions are different to those facing the Australian market and therefore of limited value in assessing whether declaration will promote competition in the Australian market. However, in terms of whether mandated roaming facilitates new entry, the international evidence appears to be consistent with analysis suggesting that investment incentives should be carefully considered. Mandated roaming to facilitate entry can result in free-riding on an existing network, or in new entrants choosing limited geographic coverage for extensive periods of time. Limits on the period under which new entrants can roam attempt to alleviate this problem but extensive infrastructure competition can still be delayed.

A new entrant would, at least initially, focus on building a network and a customer base in the metropolitan areas and then more densely populated regional areas of Australia. This is because the potential customer base in these areas is large, and population coverage will be important to the majority of potential customers.

However, this inquiry has focused on declaration in regional areas, where competition in the wholesale roaming market is limited. The ACCC considers that such a roaming service is likely to be of limited utility to a new entrant such as TPG, as it will most likely wish to acquire a roaming service in the more densely populated parts of Australia where potential revenues are higher. The ACCC's preliminary view is that declaration of a roaming service in areas with no, or limited infrastructure based competition is unlikely to promote competition by reducing barriers to entry for a fourth MNO. However, it would be interested in stakeholder views on this point.

The ACCC considers that a new entrant would be able to obtain a roaming agreement in the more densely populated parts of Australia, where such an agreement would be most valuable. Currently all three MNOs have coverage in the more densely populated areas, therefore the market for wholesale roaming services would be more effective in these areas than it is in regional Australia. The ACCC considers that each of the MNOs therefore would have the incentive to compete to win the roaming business from a new entrant in these areas.

¹⁵² Telecom Notice of Consultation CRTC2013-685, 29 January 2014.

[c-i-c] The ACCC does not consider that this affects its assessment that TPG would be able to acquire a service in the future. This is because TPG has now clearly stated its intention to rollout a mobile network, and has the spectrum resources to do so. Therefore, it is now far more certain that TPG will enter the market, and therefore, there are greater incentives for MNOs to compete to gain its roaming business.

However, we note that it is also possible that the MNOs may choose not to supply a roaming service as it would assist a competitor who would erode their market share. The ACCC considers that the entry of a fourth MNO would be a very positive outcome for competition and consumers in the national market for mobile services. We note that if there was evidence of anti-competitive conduct to make it more difficult for a fourth MNO entering the market, it would raise concerns for the ACCC.

The ACCC does not consider that, at this point in time, declaration of a roaming service in regional areas would facilitate entry for a fourth MNO. Further, while a roaming service in metropolitan areas would be more likely to reduce such barriers, competition in the market for roaming services in more densely populated parts of Australia should ensure that such a service is offered via commercial negotiation.

The ACCC welcomes submissions from stakeholders on its preliminary view that declaration is not necessary to lower barriers to entry.

6.2.4. Preliminary conclusion is that declaration would not significantly promote competition in the retail market

For the reasons outlined above, the ACCC considers that declaration has the potential to have some pro-competitive effects, but that it is unlikely to significantly promote competition in the national mobile services market such that it would support declaration of a service. While it would improve Optus' and VHA's ability to compete on the basis of coverage, this is only one of many aspects over which MNOs compete in the national retail market. The ACCC has found that this market is currently exhibiting signs of reasonably effective competition. As such, it appears unlikely that declaration would lead to improved outcomes for consumers. On the contrary, we consider that there is a potential for prices to increase for some consumer groups.

Finally, the ACCC considers that it is unlikely that declaration will significantly promote competition by reducing barriers to entry. Its preliminary view is that a new entrant should be able to acquire roaming on reasonable commercial terms in coverage areas where there is infrastructure based competition without declaration.

7. Any-to-any connectivity

Any-to-any connectivity is a fundamental requirement that ensures each person using a similar telephone service is able to communicate with each other. It is designed to ensure calls can always be made and received between consumers using similar services (such as mobile to mobile or fixed to mobile services) no matter the originating or terminating network.

The objective of achieving any-to-any connectivity is only relevant in the declaration context with respect to services that involve communications between end-users. For example, it will be particularly relevant when considering services that require interconnection between different networks.

For the purposes of this inquiry, the ACCC has assessed the objective of achieving any-to-any connectivity by:

- outlining the legislative requirements contained in Part XIC of the CCA and the ACCC's general approach as described in the relevant ACCC guidelines¹⁵³
- reviewing the ACCC's previous views on any-to-any connectivity, and
- considering the range of views put forward in submissions.

The ACCC has concluded that the achievement of any-to-any connectivity should be considered in the context of connectivity between networks. Accordingly, the ACCC has found that this factor is not relevant to its consideration of whether declaration would be in the LTIE.

7.1. Legislative requirements

In determining whether declaration will promote the LTIE, the ACCC must have regard to the extent to which declaration is likely to result in the achievement of the objective of any-to-any connectivity in relation to carriage services.¹⁵⁴

The CCA provides that the objective of any-to-any connectivity is achieved if, and only if, each end-user who is supplied with a carriage service that involves communication between end-users is able to communicate, by means of that service, or a similar service, with each other whether or not they are connected to the same network.¹⁵⁵

7.2. ACCC guidelines

In August 2016, the ACCC released, *A guideline to the declaration provisions for telecommunications services under Part XIC of the Competition and Consumer Act 2010* (the ACCC guideline). The ACCC guideline states that the achievement of any-to-any connectivity is particularly relevant when considering services that require interconnection between different networks.¹⁵⁶

In considering whether declaration is likely to achieve this objective, the ACCC will generally examine whether any-to-any connectivity will be agreed between service providers in the absence of declaration. This might involve considering the length of time and costs associated with negotiating any-to-any connectivity arrangements. Where the arrangements are expected to involve negotiations between multiple parties, declaration may have the

¹⁵³ ACCC, *A guideline to the declaration provisions for telecommunications services under Part XIC of the Competition and Consumer Act 2010*, August 2016 (ACCC telecommunications guidelines).

¹⁵⁴ CCA, subsection 152AB(2)(d).

¹⁵⁵ CCA, subsection 152AB(8).

¹⁵⁶ ACCC telecommunications guidelines, p. 40.

potential to settle interconnection arrangements more quickly and efficiently through the application of the standard access obligations.¹⁵⁷

7.3. Historical ACCC views on any-to-any connectivity

Notwithstanding the above, the ACCC acknowledges that it has considered the relevance of any-to-any connectivity in two previous inquiries about whether to declare domestic mobile roaming and this has resulted in two interpretations of the criterion. In the ACCC's 1998 inquiry into domestic roaming, the ACCC stated that it: '...considers that domestic intercarrier roaming is unrelated to any-to-any connectivity as it involves the connection of a customer to a network rather than communication between two customers who are already connected. Roaming should be regarded as promoting the related concept of ubiquity.'¹⁵⁸

In the ACCC's 2005 inquiry into domestic roaming, the ACCC reconsidered this view in light of submissions and decided that:

- Domestic inter-carrier roaming permits a subscriber to make calls when outside his or her network area, thereby enabling the subscriber to communicate with other end-users.
- Moreover, when a subscriber is outside his or her network area, domestic inter-carrier roaming permits the subscriber to receive calls, thereby enabling other end-users to communicate with that subscriber.¹⁵⁹

Thus in 2005 the ACCC concluded that the provision of domestic inter-carrier roaming services is likely to result in the achievement of any-to-any connectivity.¹⁶⁰

Stakeholder submissions have understandably focused on one or the other of the ACCC's previous interpretations of any-to-any connectivity. That is, submissions have focused on whether, in the context of mobile networks, the criterion should be interpreted as relating to:

- achieving any-to-any connectivity between networks (a narrower definition which would tend to suggest that this criterion is less relevant to the ACCC's LTIE assessment), or
- achieving any-to-any connectivity between individual end-users (a broader definition which would suggest that greater weight should be given to this criterion in the ACCC's LTIE assessment).

Stakeholder submissions and the ACCC's reasons for its draft decision are outlined in further detail below.

7.4. Submissions vary in their views on assessing any-to-any connectivity

Some submitters favoured the narrower definition of any-to-any connectivity

Optus and Telstra both made submissions which favour a narrower definition of any-to-any connectivity. In Optus' submission, declaration of a roaming service is unlikely to have an impact on any-to-any connectivity with or without declaration.¹⁶¹

¹⁵⁷ ACCC telecommunications guidelines, p.41.

¹⁵⁸ ACCC, *Public inquiry into declaration of domestic inter-carrier roaming under Part XIC of the Trade Practices Act 1974*, March 1998.

¹⁵⁹ ACCC, *Mobile Services Review: Mobile domestic Inter-carrier Roaming Service*, December 2004, p. 44.

¹⁶⁰ *ibid*, p. 44.

¹⁶¹ Optus submission, pp. 26, 30.

Telstra submitted that interconnection (through regulated MTAS) already achieves any-to-any connectivity between mobile devices connected to different mobile networks when those devices are within their respective networks' coverage areas. Telstra submitted that the purpose of this objective is to ensure connectivity between customers connected to different networks and not with the lack of connectivity or coverage within an individual network for its own customers.¹⁶²

In Telstra's view, the objective of any-to-any connectivity is directed at achieving interconnection between end user services connected to different networks. That is, in the case of mobile, each end user service is within its home network's coverage area. Any-to-any connectivity is not about creating connectivity within an individual network where the MNO does not have its own coverage. Therefore, roaming will not relevantly promote any-to-any connectivity.¹⁶³

Other submitters considered the ACCC should retain the broader interpretation of any-to-any connectivity

VHA and Pivotel favoured a broader interpretation of any-to-any connectivity, which suggests that the criterion should be read as relating to any-to-any connectivity between individual end-users.

In VHA's submission, declaration will achieve any-to-any connectivity in regional Australia. VHA submitted that in the absence of declaration, non-Telstra end-users are simply not able to communicate (other than 000 emergency calling) when they are in the Telstra-only areas. VHA also submitted that some regional end-users may not be willing or able to pay the price premium Telstra demands, and therefore may undersubscribe to mobile services which will adversely affect the statutory factors of achieving any-to-any connectivity.¹⁶⁴

Pivotel submitted that a significant improvement in any-to-any connectivity will be achieved through domestic roaming, as customers of MNOs (and their MVNOs) who visit a geographic location where the MNO does not have coverage currently cannot connect to other end users. Pivotel submitted that with domestic roaming, the geographic area in Australia under which all end users should be able to communicate with all other end users will be doubled and that this is likely to have a material positive impact on any-to-any connectivity.¹⁶⁵

7.5. The ACCC concludes that this factor should be given little, if any, weight

In the ACCC guideline, the ACCC expresses a clear view that any-to-any connectivity relates to interconnection arrangements between competing networks. In making this draft decision, the ACCC has adopted the general approach as set out in the ACCC guidelines. The ACCC acknowledges that this is a narrower definition of any-to-any connectivity than the interpretation that was put forward by the ACCC in its 2005 inquiry into domestic mobile roaming.

In the ACCC's preliminary view, the any-to-any objective in the LTIE test is designed to ensure that competing networks make the necessary arrangements to interconnect with each other and to avoid a scenario where an operator could simply decline to connect services from an end-user on a rival network. Adopting the position put forward in the ACCC guidelines, the ACCC is of the view that any-to-any connectivity is particularly relevant when

¹⁶² Telstra submission, p.83

¹⁶³ Telstra submission, pp.115-116.

¹⁶⁴ VHA submission, pp.88-92.

¹⁶⁵ Pivotel submission, p.12.

considering services that require interconnection between different networks; for example, the mobile terminating access service, which is already subject to regulation by the ACCC.

In the ACCC's view, declaration is not likely to achieve the objective of achieving any-to-any connectivity, because interconnection arrangements are already in place and this criterion should be given little, if any, weight. As such, the ACCC's preliminary conclusion is that the achievement of any-to-any connectivity is not relevant to its consideration of whether declaration would be in the LTIE.

8. Efficient investment in, and use of, infrastructure

Key points

- We consider declaration may result in some efficiency gains in allowing access seekers to use the excess capacity available on the access provider's existing infrastructure in areas where declaration would be likely to apply.
- However, as declaration is unlikely to significantly promote competition and lead to more efficient prices in the retail market, we consider that declaration is unlikely to encourage more efficient use of mobile infrastructure more generally.
- We find that declaration, coupled with an efficient regulated price, would generally promote economically efficient investment in infrastructure. However, given the lack of evidence that competition in the relevant markets is failing to deliver efficient outcomes, we cannot find that declaration is necessary to promote the economically efficient investment in infrastructure. In such a case, there is a risk that declaration may in fact distort efficient investment incentives.
- We find that it is otherwise technically feasible to supply a declared mobile roaming service, although pricing would be problematic.

The third element that the ACCC must consider to determine whether declaration would be in the LTIE is whether it would encourage the economically efficient use of, and investment in infrastructure. In determining the extent to which it may do so, regard must be had to the technical feasibility of providing and charging for a roaming service, the legitimate commercial interests of the suppliers of the service and the incentives for investment in infrastructure.

The concept of efficiency has a number of dimensions. When considering economic efficiency, the ACCC must have regard to the following types of efficient outcomes:

- a productively efficient outcome, whereby service providers use the least cost input mix required to produce retail goods or services
- an allocatively efficient outcome, whereby the set of goods and services that consumers value most are produced from a given set of resources, and
- a dynamically efficient outcome, whereby innovation leads to the development of new services or improvements in production techniques or the efficient deployment of resources between present and future uses so that the welfare of society is maximised over time.

When considering incentives for investment in infrastructure, the ACCC also has regard to the risks involved in making the investment. Facility owners will not commit to major new capital outlays without expectation of profits commensurate with the commercial risks involved.

8.1. Would declaration of a mobile roaming service encourage the more efficient use of networks?

In our discussion paper, the ACCC considered that a wholesale roaming service has the potential to bring additional traffic onto an access provider's network, thereby increasing the use of its infrastructure. Where there is sufficient excess capacity available on the access

provider's network, this would generally encourage more efficient use of the infrastructure by enabling better exploitation of the economies of scale.

More generally, an improvement in competition in retail markets would also promote allocative and dynamic efficiency. As such, if the ACCC concluded that declaration would promote competition in retail markets, then it is likely that it would also promote economically efficient outcomes in the use of infrastructure that delivers the downstream goods or services.

To assist its analysis, the ACCC sought information from the MNOs about how they monitor network utilisation and the average level of excess capacity currently available on their network across different geographic areas. It also considered the views of submitters who expressed varied opinions on whether declaration would encourage the efficient use of existing infrastructure. This is discussed below.

8.1.1. Stakeholders' views on the impact of declaration on the efficient use of infrastructure

Submitters expressed different views on whether declaration would promote the efficient use of existing infrastructure. Telstra argued strongly that existing regulatory arrangements are more effective at encouraging service providers to efficiently use infrastructure and that roaming would in fact, result in degradation of existing networks. VHA and Pivotal expressed opposing views, arguing that a declared roaming service would in fact encourage existing infrastructure to be used more efficiently. The arguments in support of these views are discussed below.

A regional representative body, the Victorian Farmers Federation, considered that declaration of a roaming service would encourage network operators to more efficiently utilise the entire coverage footprint of their networks.

Existing regulatory arrangements encourage the efficient use of infrastructure

Telstra submitted that the facilities access regime encourages MNOs to share towers and base stations, which avoids the duplication of infrastructure. Similarly, Telstra considered that access to a regulated transmission service also encourages the efficient use of existing transmission infrastructure and avoids the duplication of backhaul infrastructure.

Telstra considered that a wholesale roaming service would not be an efficient use of infrastructure. Each MNO has their own spectrum for use in regional areas, and sharing radio equipment and the core network of an access provider could result in congestion. Telstra argued that allocative and dynamic efficiency was already being achieved as the differences in the MNOs' network coverage and the technology they used to supply mobile services produced services that consumers' value and allowed service providers to innovate.¹⁶⁶

Telstra also claimed that mandated roaming is likely to result in service degradation and would complicate the management and operation of its network.¹⁶⁷

Telstra stated that it does not dimension cell sites upfront with a significant amount of spare capacity and that future capacity planning is based on forecast traffic growth. It makes investments that are required to address any expected network congestion set to occur on a just-in-time basis.¹⁶⁸ Telstra provided a report by Aetha which concluded that **[c-i-c]**.

¹⁶⁶ Telstra submission, pp. 83-87.

¹⁶⁷ Telstra submission, pp. 59-60.

¹⁶⁸ *ibid*, p. 56.

Declaration would encourage more efficient use of infrastructure

VHA's submission presented an opposing view. VHA argued that declaration of a roaming service would encourage the efficient use of infrastructure. Its view is that, unlike passive network sharing provided by the facilities access regime, a declared roaming service would use existing infrastructure (spectrum, radio equipment and the core network) to overcome barriers to entry in Telstra-only areas and avoid the duplication of networks.

VHA did not consider that network congestion would be likely if a roaming service was declared, as most sites in Telstra-only areas carry low levels of traffic and specific seasonal peaks in traffic would have been forecast, and addressed, by Telstra's dimensioning of the network. Given many of the Telstra-only areas are areas of low population density, VHA argued that a declared roaming service would not be expected to significantly increase overall traffic volumes. VHA also noted that if capacity constraints were to arise, the access provider has the ability to prioritise its own use of the infrastructure under the facilities access regime.

Pivotel submitted that, while the deployment of 'islands of coverage' may be commercially viable to address specific niches of demand in remote areas, duplicating infrastructure to bring connectivity to those sites would be unviable and inefficient. Pivotel considered that declaration of a mobile roaming service would be the most efficient way to provide connectivity to those isolated network deployments.

8.1.2. The ACCC's preliminary finding is that declaration is unlikely to materially promote efficient use of existing infrastructure

To assist in determining the potential impact of declaration on the use of each of the MNO's infrastructure, the ACCC sought information from the MNOs on the level of network utilisation on their networks and capacity provisioning.

[c-i-c]

Network operators provided information on 3G and 4G cells. Given the information provided, the ACCC has focused on the level of excess capacity available on Telstra's 3G cells in remote areas. This is because Telstra-only areas are predominately 3G areas.

Information provided by Telstra suggests that it has marginally higher levels of excess capacity in remote and very remote parts of Australia, compared to other geographic regions. Our preliminary view is that this excess capacity could be better utilised by making Telstra's network available for use by an access seeker's customers as a result of declaration. While it is impossible to accurately predict the overall level of roaming traffic resulting from declaration, the ACCC considers that it is plausible to expect that there would be limited effect on overall traffic resulting from any customers switching from Telstra to another MNO after declaration. However, there is likely to be some increase in traffic resulting from customers of another MNO, who are most likely to be visitors to the areas rather than local residents, using Telstra's network which they would be unable to do currently.

The ACCC is not persuaded by Telstra's argument that roaming would materially contribute to the risk of congestion on an access provider's network. Telstra's own information indicates that at present the numbers of congested cells (both 3G and 4G) are low in remote and very remote parts of Australia. Telstra argued that declaration will significantly increase the number of congested cells in the coming years but this is on the assumption that Telstra would make no additional investment in expanding capacity as a result of declaration. The ACCC considers the impact of declaration on investment incentives is a separate issue which will be discussed in the next section.

On the other hand, as discussed in section 6.2, the ACCC found that declaration is unlikely to promote competition and lead to more efficient prices, so as to encourage the more efficient use of existing mobile infrastructure more generally.

For these reasons, the ACCC's preliminary view is that declaration may result in some efficiency gains in allowing access seekers' customers to use Telstra's network in the Telstra-only area. However, it is unlikely to encourage the efficient use of existing mobile infrastructure more generally.

8.2. Would declaration encourage the economically efficient investment in infrastructure?

Ongoing investment in mobile networks in regional Australia is a key area of concern for regional groups and regional consumers. As noted in section 5.4, the ACCC accepts the contention that when making decisions to invest in areas of low population density (typically regional and remote areas), an operator will not only consider the expected direct returns from such investments to justify the capital cost of building or extending a network. It will also take into account the advantage of being able to claim a greater coverage footprint and the indirect returns from attracting customers who value coverage in areas of lower population density when making those decisions.

Declaration of a service is likely to have both positive and negative effects on incentives to invest in infrastructure facilities. On the one hand, declaration could potentially address some of the adverse effects on investment that arise from a lack of effective competition in a market, by encouraging access providers and access seekers to make efficient investments in services and in downstream markets. On the other hand, it may create distortions to infrastructure investment incentives that are efficient. For example, it could potentially diminish the incentives of an access seeker to invest in new technologies and innovation, thereby undermining dynamic efficiency in the market. It may also stifle the development of a more diverse and differentiated range of goods and services.

There is in general a strong relationship between competition and efficiency. Effective competition is the most desirable means to achieve economic efficiencies. The ACCC's analysis of whether supply of services is subject to effective competition and the likely impact of declaration on competition will therefore inform the ACCC's analysis of the impact of declaration on efficiency.

8.2.1. Submissions expressed concern about the impact of declaration on investment incentives

Submissions from regional and rural Australia are concerned about the impact declaration would have on investment incentives

The ACCC received a large number of submissions commenting on the potential impacts of declaration on investment incentives. Many regional councils, MPs, regional consumers and businesses, and representative groups expressed concern about the likelihood of negative impacts on MNOs' investment incentives should a wholesale roaming service be declared.

Many agricultural representative groups emphasised the importance of mobile coverage in regional Australia and submitted that the promotion of competition should not be sought at the expense of investment in mobile coverage or networks in regional areas. The National Farmers' Federation and WA Farmers for instance, considered that if roaming is declared, the ACCC must ensure that proper regulatory settings are in place to encourage continued

investment, such as nominating a regulated price which includes the recurring costs of network maintenance and upgrades.¹⁶⁹

NSW Farmers urged the ACCC to examine the 'headline' claims made by network operators about investment and investigate whether further investment will extend coverage.¹⁷⁰

The Victorian Farmers Federation considered that the inquiry should focus on efficient infrastructure investment. While it was opposed to the duplication of infrastructure in areas of low demand, it considered that imposing network roll-out commitments on access seekers would balance the risks of adversely impacting investment incentives, while promoting competition.¹⁷¹

Many ACCAN members are concerned about the potential for a negative impact on investment incentives

ACCAN pointed to the current government funding or subsidy programs to enhance coverage and considered that network operators have few incentives to invest in areas where there is low or no return on investment. However, many of its members expressed concern that declaration would result in Telstra decommissioning sites or ceasing to invest in its regional network. Some members were concerned that Telstra would not have incentives to invest to upgrade existing sites with latest speeds, expand capacity, or upgrade backhaul to accommodate 4G if roaming was declared.

Industry submissions are divided about the impacts of declaration on ongoing investment in networks, particularly in regional areas

Industry stakeholders expressed opposing views about the likelihood of investment incentives being impacted by declaration.

Telstra has argued strongly in its submission, and publicly, that declaration of a wholesale roaming service will neutralise any competitive advantage from coverage and undermine the business case for investing in sub-economic sites in regional Australia. Telstra claimed that reducing or removing the investment incentives in regional Australia would directly affect decisions to increase coverage depth and breadth and to upgrade capacity to meet growing data traffic.¹⁷²

Telstra considers that in the absence of declaration, other service providers have incentives to close the 'coverage gap' in order to increase market share, and to gain a share of the profits attributed to broader coverage. While direct revenues flowing from regional areas may not justify the cost of deployment to extend coverage, there will be indirect revenue gains by being able to compete for consumers outside of regional areas, but who value wider coverage.¹⁷³

As discussed in section 5.3, Telstra submitted that it faced competition from other network operators seeking to extend coverage which was a driver for it to maintain its coverage superiority. Optus, in particular, is investing to compete with Telstra in regional areas.

In response to arguments that an appropriate access price could mitigate any diminished incentives, Telstra argued that access prices could not compensate it for lost revenues

¹⁶⁹ NFF submission, p.6.

¹⁷⁰ NSW Farmers' submission, p. 2.

¹⁷¹ VFF submission, p.10.

¹⁷² Telstra submission, pp. 50–52.

¹⁷³ *ibid*, 53.

associated with its coverage advantage. If indirect returns could not be factored into decisions to invest in sub-economic sites, Telstra may decommission such sites.¹⁷⁴

The ACCC had sought views in its discussion paper on whether restricting declaration to a specific technology, such as 3G, would reduce the impact on investment incentives. Telstra submitted that customers do not generally distinguish between 3G and 4G networks. By restricting declaration to 3G technologies, incentives to maintain or upgrade 3G networks would be diminished. Given that many regional sites are 3G, this would have an impact on regional areas. Telstra argued that uncertainty regarding future access obligations (for example, extending access to 4G and 5G technologies) would compound the inherent risk in making investments in infrastructure.¹⁷⁵

Optus raised similar concerns about the potential for negative impacts on efficiency if a roaming service was declared. It considered that the potential for underinvestment or disaggregated pricing to arise was high as network operators could not continue to fund regional investment at current national prices.

It also pointed to the risk of regulatory error in setting access prices. Optus considered that access seekers would have incentives to acquire less traffic in roaming areas to avoid the cost of access. This could lead to overstatement of traffic forecasts in the development of a pricing model that would result in an understatement of the regulated price.

Optus submitted that declaration would put at risk its current investment plans to match Telstra's network coverage in outer metro and regional areas as network coverage would no longer provide a point of differentiation.¹⁷⁶

VHA submitted that declaration of mobile roaming, coupled with appropriate regulated prices, would encourage access seekers to invest in regional areas where it is efficient to invest.

VHA considered that declaration would provide temporary entry encouragement, allowing access seekers to win market share and generate revenue which in turn, would make it economic to deploy their own networks in or beyond the declared areas. VHA asserted that mandated roaming would,

- mitigate uncertainty and risk for a potential entrant,
- allow access seekers to develop their customer base ,and
- reduce the information asymmetry between an incumbent and a new entrant.

VHA also considered that declaration of a roaming service would increase the competitive tension between network operators when competing for government subsidies. Currently, Telstra, having the largest network, is best placed to tender for, and win, government subsidies to increase network coverage.

VHA also argued that access providers would get a return on their investments from access prices, which should provide incentives to continue to invest. It considered any potential adverse impact of the declaration on access providers' incentives to invest would be minimal given that Telstra has little incentive to expand its coverage footprint any further. VHA noted that a significant part of mobile investment in regional areas has been driven by government subsidies.¹⁷⁷

¹⁷⁴ *ibid*, p. 65.

¹⁷⁵ *ibid*, pp. 62–63.

¹⁷⁶ Optus submission, p. 36.

¹⁷⁷ VHA submission, pp. 107-121.

TPG considered that any negative impact on investment incentives would be mitigated through a tiered access pricing structure. It considered that if access charges were higher in metro areas and lower in rural and remote areas and differentiated pricing for access to different types of technologies was adopted, this would create the right incentives to promote investment by a new entrant.

TPG also considered that the negative impacts of declaration would be minimal as access seekers would prefer to avoid relying on a competitor to be able to provide services. Access seekers would have strong incentives to build or extend their own networks.¹⁷⁸

Macquarie Telecom considered that the biggest inhibitor of investment is lack of competitive pressure rather than regulation.¹⁷⁹ It posited that networks have reached their maximum efficient size and further coverage expansions are likely to be driven by subsidies or joint investments. As such, it considered that the impact on investment incentives would be minimal.

Pivotel made a similar point. It argued that further expansion of Telstra's network was reliant on government funding and consequently declaration would not remove any incentive for network expansion on a commercial basis.

Pivotel considered that roaming revenues would maintain the access provider's incentives to continue expanding the capacity and functionality of its network. It considered that an access seeker is also likely to have a strong incentive to extend its network coverage after having access to roaming once it has been able to acquire sufficient customers.¹⁸⁰

The Competitive Carriers' Coalition (CCC) expressed concerns regarding the argument that the ACCC should not declare roaming if it would deter investment by Telstra in expanding its mobile network footprint. The CCC argued that accepting this argument would represent a departure from decades-long practice and could create most serious uncertainty about the basis of pricing of regulated communications services. The CCC stressed that an access provider is entitled to a reasonable rate of return and urged the ACCC to maintain consistency with its long-established approach to balance the interests of access seekers, access providers and consumers.¹⁸¹

8.2.2. The ACCC finds that declaration could promote the efficient investment in infrastructure, but only where competition is not effective

MNOs' current incentives to invest, expand and improve coverage are mixed

As discussed in section 5.4, the ACCC considers that the MNOs are likely to face different incentives to continue to invest in regional areas in the absence of declaration:

- Telstra is unlikely to have strong incentives to continue to expand its coverage footprint in the absence of government subsidies. As Telstra's current coverage footprint is already significantly bigger than its closest competitor, we do not consider that an additional increase in coverage is likely to provide materially more competitive benefit.
- Telstra is likely to continue to invest to improve its network within the existing coverage footprint, including by upgrading the existing sites to 4G and expanding capacity in areas where it is currently the only MNO. Currently, the only evidence of a planned investment in the Telstra-only areas is the plan to expand its 4G footprint to cover 99 per cent of

¹⁷⁸ TPG submission, pp. 3–4.

¹⁷⁹ Macquarie Telecom submission, pp.11-13.

¹⁸⁰ Pivotel submission, pp. 13-15.

¹⁸¹ CCC, Submission to discussion paper, 25 January 2017.

population by June 2017, which would see some of the Telstra-only areas receiving 4G coverage.

- It is unclear when the remaining parts of Telstra's 3G only areas will be upgraded to 4G given it does not currently face any infrastructure based competition in these areas. However, we consider that Telstra is likely to have incentives to progressively roll out 4G to cover its existing footprint for the following reasons:
 - Telstra has announced that it is planning to switch off its 3G network from 2022.¹⁸² We would expect that Telstra will expand 4G coverage to approximately the same extent as the current 3G coverage before the 3G closure if it wants to maintain its overall coverage size.
 - 4G technology represents a more efficient means of delivering mobile services than 3G and would provide the MNOs with significant cost savings over time. This means that the MNOs would generally have incentives to upgrade their network to 4G to improve productive efficiency. Replacing 3G with 4G would also enable MNOs to re-farm spectrum used for 3G for use in new technologies.
- We consider it unlikely that Telstra's coverage footprint will be completely matched by Optus. However, Optus indicated it is likely to continue to make investments to improve its network performance in regional areas, [c-i-c].
- Optus is likely to continue to invest in improving the quality of its network to compete with Telstra in many regional areas, including by continuing to roll out its 4G network. Optus' investments to compete with Telstra are also likely to elicit competitive responses from Telstra to maintain its better coverage.
- VHA is likely to continue to make investments to improve its coverage and expand capacity in areas where it already has coverage. [c-i-c]

Impact of declaration on MNOs' incentives to make efficient investments

The ACCC is concerned to ensure that both access providers and access seekers have incentives to make efficient investments in existing and new infrastructure. As outlined earlier, the concept of economic efficiency has a number of components and it is not always possible to promote one component of efficiency without reducing another.

Impact on Telstra's investment incentives

The ACCC considers that, while declaration would have some impact on Telstra's incentives to invest in expanding its network beyond its current footprint, that impact would not be significant. This is because Telstra's commercial incentive to continue to increase its network at this time is low.

Telstra's investment plans indicate that much of its further expansion in coverage may only be undertaken under co-investment programs such as the Mobile Black Spot Program. On the one hand, declaration would mean that Telstra would no longer retain the exclusive use of infrastructure funded under these co-investment programs. On the other hand, declaration may increase the ability of other MNOs to compete for funding under these programs as they would be more likely to be able to claim continuous coverage in the areas in which coverage improvements are sought. The ACCC considers that this means Telstra is likely to retain some incentives to participate in these programs, but the extent to which it will do so and the amount of co-funding that it would be willing to expend may be smaller if a mobile roaming service is declared.

¹⁸² Telstra submission, Statement of Michael James Wright, 1 December 2016, p. 53.

However, the ACCC considers that the existence of these programs serves the policy objective of improving regional coverage where there are no commercial incentives to do so. This means that MNOs would not have invested in the infrastructure funded under these programs but for the existence of co-investments. They are likely to reflect investments which a competitive market cannot otherwise deliver. As such, the ACCC is not convinced that the MNOs' incentives to participate in these programs accurately reflect incentives to undertake economically efficient investments.

The ACCC considers that declaration may have some effect on Telstra's incentives to invest in its existing network in areas where declaration is most likely to apply, i.e. the Telstra-only areas, such as investments to upgrade to 4G and expand capacity. Whether Telstra will have ongoing incentives to undertake such investments may largely depend on the regulated price for a declared roaming service.

The ACCC has generally considered that an appropriate regulated price which enables the access provider to recover its costs of providing the service with a reasonable rate of return would provide the access provider with incentives to make efficient investments in maintaining and upgrading its existing infrastructure. The ACCC agrees with some submissions that to ensure that such incentives are maintained, the regulated price would need to take into account the recurring network costs of maintenance and upgrades. Further, as discussed above, the ACCC considers that Telstra would have other incentives to upgrade its network to 4G, the incentives to continue to roll out 4G network in the Telstra-only area may be largely unaffected. Overall, the ACCC considers that any impact on the Telstra's incentives to invest in its existing infrastructure is likely to be marginal.

However, as discussed below, if declaration reduces the access seeker's incentives to make efficient investment to compete with the access provider, then it may also indirectly remove incentives by the access provider to invest in response to the access seeker's investment.

Impact on Optus' investment incentives

The ACCC considers that the impacts on Optus' investment incentives are likely to be two-fold.

On the one hand, in areas where currently Telstra is the only MNO, declaration coupled with appropriate regulated pricing would provide Optus with incentives to make efficient build/buy decisions. That is, Optus will have incentives to build its own network infrastructure when it is economically efficient to do so, and acquire roaming when it is inefficient to duplicate Telstra's infrastructure. While this is generally the case, we consider declaration also carries with it the risk that the access price may be set too high or too low, which would lead to under- or over-investment. This risk is due to the practical difficulties of setting an appropriate regulated price.

On the other hand, the ACCC considers there is potential for Optus to not only duplicate Telstra's coverage in the current Telstra-only areas, but to also provide a competing network with better coverage (e.g. greater depth, higher speed or newer technology). The ACCC considers the incentive to differentiate itself is likely to be strong for Optus if it extends into the Telstra-only area. This is because it is highly unlikely that it will completely match the network reach of Telstra. As such, the ACCC considers that Optus' incentives to make efficient investments to compete with Telstra on network quality in the Telstra-only area are likely to be affected by declaration. We also consider it is practically impossible to restrict declaration to areas where Optus would not invest in the foreseeable future to minimise the potential effect of declaration.

Where there is evidence that the MNOs are differentiating their products in order to effectively compete in the mobiles services market, the declaration of a mobile roaming

service potentially removes a point of differentiation, which may distort efficient investment incentives. This may stifle the development of a more diverse and differentiated range of goods and services and undermine dynamic efficiency and the interests of end-users.

Further, the ACCC considers that Telstra is likely to respond to any potential investments by Optus to improve network quality and make similar investments in areas targeted by Optus in order to gain or maintain its network advantage. Any dampening effect declaration may have on Optus' incentives to make future efficient investments in this respect would also indirectly affect Telstra's incentives to respond. Declaration may therefore undermine this competitive dynamic and delay the incremental improvement in regional coverage that may result from this rivalry.

Impact on VHA's investment incentives

The ACCC does not consider that declaration would have a significant impact on VHA's incentives to make efficient investments. The ACCC is not convinced by VHA's argument that declaration would reduce barriers for VHA to invest in expanding its coverage, thereby encouraging VHA to invest in areas where it cannot do so currently. VHA argued that declaration of a mobile roaming service would mitigate uncertainty for a potential new entrant, allow access seekers to develop their customer base and reduce information asymmetry between the incumbent and access seeker in relation to the market. While the ACCC accepts that these rationales may potentially justify declaration to facilitate new entry, they are unlikely to apply to an established national MNO. The ACCC therefore does not consider that declaration would materially increase VHA's incentives to make efficient investment where it is currently unable to do so.

Impact on efficient investments in areas with infrastructure competition

As discussed in Section 6.2, it is arguable that declaration would allow MNOs to have the same coverage size and therefore encourage the MNOs to compete more on factors other than coverage. Consequently, declaration may promote more investments in improving network quality in areas where there is infrastructure competition. As discussed earlier, the ACCC considers that MNOs already have strong incentives to compete on the quality of their networks in areas where there is infrastructure-based competition given the importance of network quality to consumers. Therefore, the ACCC does not consider that declaration would significantly promote efficient investment in this regard.

The key risk of regulation is that it can distort investment incentives. If the regulation is not targeted or warranted, it may reduce efficient investments which result in socially beneficial outcomes.

Generally, the ACCC considers that where there is a clear market failure to deliver efficient outcomes, declaration coupled with an appropriate regulated price is likely to promote economically efficient investment. However, as discussed earlier, there is no evidence that there is market failure in the national mobile services market. We consider that given this, declaration has the potential to distort efficient investment incentives and may have unintended consequences. We consider there is potential for Optus to efficiently invest to compete with Telstra on network quality in areas where declaration would be likely to apply.

8.3. Technical feasibility of roaming

In assessing whether declaration will promote the economically efficient use of, and investment in, telecommunications infrastructure, regard must be had to whether it would be technically feasible for mobile roaming to be supplied. In making this assessment, regard must also be had to the technology available or likely to become available, whether the costs involved in supplying mobile roaming are reasonable, and the likely effect of supplying and

charging for, mobile roaming on the operation or performance of mobile services networks.¹⁸³

8.3.1. Submissions point out the potential for technical problems

In a report commissioned by Telstra, Aetha considered that there are significant technical difficulties with mobile roaming, which would negatively impact on a large number of customers and their mobile service experiences.¹⁸⁴ Aetha expressed concerns about the potential for mandated mobile roaming to cause problems in the seamless handover of calls between networks and poor end user experience, arising from network connection issues and reduced battery life of user devices seeking to connect to networks. Aetha also noted that there would also be issues in areas of overlapping coverage, such as the 'ping-ponging' of devices between networks, increased capacity issues and the risk of network failures affecting other networks. These issues will exist, regardless of the geographic scope of the declared service.

Telstra submitted that even if declared roaming does not result in additional traffic, Telstra would not have the incentive to invest in upgrading cell sites,¹⁸⁵ the implication being that this would result in eventual issues with Telstra's mobile network. Telstra further noted that it has not considered the costs involved in trying to resolve the technical issues outlined above and that to do so would be 'an extremely significant and laborious task'.¹⁸⁶ It also noted that it is not aware of any solutions to these problems overseas.¹⁸⁷

VHA considered that there are no material technical impediments to mobile roaming. In its response to Telstra's submission, VHA noted the theoretical nature of the problems identified in the Aetha report and provided solutions to some of the issues,¹⁸⁸ [c-i-c] VHA also submitted that existing international roaming arrangements¹⁸⁹ and [c-i-c] support the argument that there are no technical issues to declaring roaming.

While Optus noted that commercial roaming agreements do exist, it considered that declared domestic roaming services may impose different technical requirements from commercially agreed roaming services. In addition, the significant upfront costs required for roaming may not be reasonable under declaration.¹⁹⁰

8.3.2. The ACCC's preliminary finding is that it would be technically feasible to provide a declared service

The ACCC is not convinced by Telstra's arguments that there are significant technical difficulties with the implementation of a roaming arrangement such that it is not technically feasible to provide roaming as a declared service.

There are currently domestic and international commercial roaming arrangements in place in Australia. In addition to the commercial roaming agreement between Optus and VHA, each of the MNOs has international roaming agreements to provide roaming services to international visitors. It is also technically possible to restrict the provision of roaming to

¹⁸³ CCA, section 152AB(6)(a).

¹⁸⁴ Aetha, *Potential declaration of domestic roaming in Australia – Technical Issues, Report for Telstra*, 1 December 2016 (Aetha report), pp. 9-10.

¹⁸⁵ Telstra submission, p 57.

¹⁸⁶ *ibid.*, p. 60.

¹⁸⁷ *ibid.*

¹⁸⁸ VHA supplementary submission, p. 83.

¹⁸⁹ VHA submission, pp. 124-125.

¹⁹⁰ Optus submission, p. 36.

specific geographic areas. **[c-i-c]** The ACCC notes that in the past, Telstra also had a roaming agreement with Hutchison before the merger between Hutchison and Vodafone.

Past and current commercial arrangements with roaming suggest that:

- it is possible to provide roaming using the technology that is currently available
- the cost of supplying and charging for a roaming service is unlikely to be unreasonable, particularly when such cost would most likely be taken into account in setting a regulated price for the provision of a declared roaming service, and
- it is unlikely that roaming would impact on the operation and performance of the access provider's network in such a way as to render the provision of the service infeasible.

Further, there is no evidence to suggest that the provision of a declared roaming service would be technically different to the provision of a commercial roaming service. As such, the ACCC's preliminary view is that it would be technically feasible to provide a declared roaming service.

9. Issues for further consideration

The ACCC has found that the national mobile services market is currently exhibiting signs of reasonably effective competition. This has led to investment, innovation, and a wide variety of products and services being offered to meet consumer demands. For example, retail services appear to be of high quality, are reasonably priced and importantly, mobile services are available to 99.3 per cent of the Australian population.

As discussed previously, there is evidence that competition to close the coverage 'gap' between the MNOs will continue to some extent, including in some Telstra-only areas. However, the inquiry has also found that competition in regional areas is less effective than in the national market overall and that Telstra is likely to retain a coverage advantage into the future.

The ACCC's preliminary view is that economic regulation, in the form of declaring a domestic mobile roaming service, will not address the concerns regarding the level of mobile coverage and network quality available in regional areas. This inquiry heard from a large number of regional consumers and representatives of regional Australia. Many were concerned that a decision to declare would in fact result in less investment on regional mobile networks which would degrade the quality of existing networks. While more choice would be desirable, submissions from these groups urged the ACCC not to promote competition at the expense of discouraging further investment.

As one submitter noted, "...feedback from residents and business owners clearly identified a need for large investment in infrastructure to provide for mobile connectivity. Costs and access to multiple providers rates much lower as a need, or issue, for consumers in this region."¹⁹¹

However, there was also concern that competition may not deliver further coverage expansion or network quality upgrades. For the vast majority of regional stakeholders who made submissions to the inquiry, inadequate mobile coverage in the areas where they lived was a key concern.

"...Access, reliability and affordability of service are the most pressing communication issues for our families residing in rural and remote Australia. Like all Australians, our members desire equity of access as a basic requirement in the provision of telecommunications services."¹⁹²

We are interested in exploring whether there is scope to improve the outcomes for regional Australians in relation to mobile services through policy and regulatory measures. We received a number of submissions which suggested measures that could deliver some improvements in the MNOs' ability to expand their coverage and the services available to consumers in those areas. Other submissions highlighted specific problems that could be addressed through more transparency.

9.1. Increasing transparency about network quality, expansions and improvements

Monitoring network investments in regional areas

Consumers in regional and metropolitan areas value a range of different aspects of mobile services offered by MNOs, including geographic coverage and quality of service. This in turn drives network operators to differentiate their services on both dimensions in order to gain

¹⁹¹ Primary Producers of South Australia, Submission to the Discussion Paper, 26 October 2016, p.1

¹⁹² Isolated Children's Parents' Association of Australia Inc., submission to the Discussion Paper, 24 November 2016, p.1

market share. As discussed in section 5.2, these non-price factors are key areas of rivalry between the network operators. However, consumer decisions are driven to some degree by perceptions.

A fundamental requirement for markets to work effectively is that consumers know what products and services are available and how services differ from each other in functionality and quality. In the absence of such information, consumers will rely on brand names, company reputation and marketing to choose services. While these factors are important in the market, they may not reflect the service-quality-price packages that are on offer.

We have found that coverage claims made by operators do not always reflect actual experience or the quality of the coverage offered. Coverage maps published by operators may indicate that a network offers coverage in an area, but consumers find that coverage is either of poor quality or non-existent.

Consumers and representative groups noted anecdotally that coverage had been rolled back in some areas, whereas in other areas, sporadic coverage offered by two networks meant that consumers have had to use separate phones to access two networks in the region in order to have continuous coverage.

While operators have made general announcements of intended investments, these announcements lack specificity or sufficient granularity to allow consumers to assess whether network changes or improvements would influence their choice of networks.

The ACCC and both State and Federal policy departments collect a range of information from network operators to inform their regulatory and policy decisions. However, this information is often not consistent or comparable.

For example, the Mobile Black Spots Program has relied on identifying coverage 'black spots' by information nominated by communities, rather than relying on operators' coverage maps. Some of the 'black spot' areas are identified as being covered by networks but communities report these areas as having either no or poor coverage. Similarly, the ACCC collects information about infrastructure from MNOs, but the information provided is not consistent or comprehensive.

The ACCC considers that there is a lack of transparency around the reporting of network coverage and future network rollout or upgrade plans. In other jurisdictions, operators are subject to rollout obligations in sparsely populated regions. These obligations can be imposed on spectrum licences or may form part of government subsidy programs. ARCEP for example, publishes a quarterly scorecard of mobile connectivity in remote areas which monitors compliance with licence conditions placed on spectrum licensees to extend coverage in regional areas.

More transparency of information regarding network extensions or improvements would promote competition by enabling consumers to seek out and use the information to make decisions about alternative services available in an area. As the investment focus turns to quality of networks, we consider that more transparency around the service functionality and quality will encourage efficient investment decisions as operators respond to consumer demand. The information would also assist more informed decision making for policy departments considering subsidy programs to improve coverage.

The ACCC has considered submissions that suggest investment plans and announcements by network operators to improve coverage or quality of services offered in regional areas be published and tracked to ensure that network operators carry through on their commitments. The National Farmers' Federation recommended that the ACCC collect data on the rates of investment by mobile network operators to increase coverage. Such information may be

published in aggregate to show how coverage is improving, but without distorting investment decisions or incentives.

The ACCC has record keeping powers that it uses in other areas of the telecommunications market to track market developments. We consider that more transparency of networks could promote competition in regional markets. We are interested in observations of stakeholders as to whether the reporting of such information would address some of the factors that have been identified as contributing to less effective competition in these sections of the market.

Improving quality of network services through consumer information

Optus currently collects real-time data about the coverage of its network through an application on its customers' mobile phones. Such information can often be more accurate and reliable than engineering estimates of coverage based on technical data.

More transparency about the quality of services from network operators and their customers' actual experiences may lead to more accurate coverage maps and service quality. This in turn, would allow consumers to choose networks that best suit their needs.

Ofcom currently reports on mobile phone call quality, from the consumers' perspective on mobile handsets; data supplied by the MNOs on the performance of their networks; and consumer research on satisfaction with mobile networks. It also proposes to publish data showing the average mobile broadband speeds received by 3G and 4G customers.

The publication of such information can help consumers make the right choices and encourage providers to improve their performance. We are interested in views of consumers and other stakeholders whether the publication of such information would promote competition in regional areas.

9.2. Measures to reduce the costs of deploying and improving mobile networks

The ACCC recognises that no single existing government initiative or regulatory mechanism can reduce the costs of deploying mobile networks in certain areas of Australia. However, opportunities do exist to potentially make improvements in MNOs' ability to expand their coverage and, consequently, in the services available to regional consumers.

9.2.1. Mobile Black Spots Program

The Federal Government commenced its Mobile Black Spot Program in 2014. So far it has allocated \$160 million in funds under two rounds of the program, and has announced it will conduct a third round under which it will allocate a further \$60 million of funds.

As noted in section 5.4, Telstra received the majority of first round funding. In the second round, funds were won by all three MNOs but in varying quantities. The results are as follows:

- **Round 1** – Telstra: 429 base stations, VHA: 70 base stations
- **Round 2** – Telstra: 148 base stations, Optus: 114 base stations, VHA: 4 base stations.

Similar outcomes have occurred in State-based funding programs to improve coverage, particularly in Western Australia, where subsidies and co-funding arrangements have assisted undelivered considerable network extensions to Telstra.

The ACCC considers that funding programs of this nature have the potential to promote investment in mobile infrastructure in areas where there is no mobile coverage. However, the way the program has been implemented means that there has been insufficient weight given to competition in allocating funding. In particular, there is no mandatory requirement to provide roaming at new mobile sites despite the significant public funds used to deliver the program.

The ACCC recognises the tension between promoting competition, which may take time to deliver benefits to consumers, and programs that provide immediate benefits to consumers in the form of coverage and network quality but that may in fact hinder the development of competition. Nevertheless, we consider that, where possible, open access requirements for these types of programs, over the longer term, will deliver more benefits to those regional consumers who are seeking improved coverage and a better return for the public money expended.

9.2.2. NBN infrastructure

We consider there may be scope for MNOs to leverage the NBN fixed wireless infrastructure to expand or improve their mobile networks at a reduced cost. MNOs can seek access to NBN's fixed wireless towers to locate their own mobile equipment (under the facilities access regime), and can also purchase a 'cell site access service' – essentially a mobile backhaul service – from an MNO's tower to a point of interconnection.

While we understand that NBN's infrastructure and services are only available within the NBN fixed wireless footprint which largely overlaps with the MNOs' existing coverage areas, there may be scope for MNOs to share NBN infrastructure to improve the quality of networks. For example, NBN facilities were nominated by bidders in the second round of the mobile black spots program to co-locate network equipment to provide coverage in new areas. Such infrastructure may also assist TPG as the new entrant to the market.

We acknowledge however, that NBN facilities are unlikely to assist existing MNOs to extend their networks into areas that are not currently served by any MNO.

9.2.3. Essential and regulated inputs to mobile networks

Access to towers, transmission services and radio-frequency spectrum are three regulated essential inputs to deploying mobile networks. They are regulated because they are scarce resources but are essential for the provision of services in the downstream retail market.

Facilities access regime

The facilities access regime, contained in the *Telecommunications Act 1997*, aims to encourage the co-location of infrastructure by imposing obligations on owners or operators of telecommunications facilities to provide other network operators with access to those facilities. Access to carrier-owned mobile towers and associated facilities is covered by the regime.

Under the regime, an MNO can request access to another MNO's facilities (the facilities owner), including the mobile tower, the site on which the tower is located and the associated facilities – passive network sharing. The MNO may then install its own equipment on the tower.

Tower sharing, under the facilities access regime or otherwise, has the potential to allow an MNO to extend their mobile network at a lower cost than would be incurred if they were to acquire sites and build their own towers. As discussed in section 4, this can reduce the costs of rolling out a network, although the costs of ongoing maintenance of such sites will remain

high. We note that MNOs can share other aspects of their mobile network – active network sharing - but that these are not covered by the current regulatory regime.

We asked stakeholders for their views on the effectiveness of the regime.

Telstra considers that regulated access to towers encourages competitive expansion, that co-locating on existing infrastructure reduces the upfront costs of establishing a new base station and that the current facilities access regime is working effectively.¹⁹³

Optus also notes that passive infrastructure costs can be significantly reduced if MNOs jointly deploy and operate infrastructure, and that network sharing has allowed VHA and Optus to double the area that they can cover with a given level of investment.¹⁹⁴ However, both Optus and Telstra consider the regime could be improved. Optus considers that while the facilities access regime has promoted competitive investment in mobile networks in regional and metropolitan areas, some improvements could be made to the regime to facilitate greater upfront collaboration between MNOs before sites are constructed.¹⁹⁵ Telstra also considers that it would be useful to review some aspects of the regime, for example whether non-carrier-owned towers should be covered by the facilities access code.¹⁹⁶

VHA submitted that the facilities access regime is effective in enabling co-location of mobile sites in metropolitan areas but is not as effective in regional Australia. It states that Telstra has the largest portfolio of towers in regional Australia, and that Telstra has, 'engaged in extensive gaming in order to delay and frustrate the sharing of its regional mobile tower infrastructure.'¹⁹⁷ For example, VHA claims that Telstra designs and builds towers that are only suitable for one occupant and that Telstra reserves the best positions on the tower for itself. It considers that the facilities access regime has not been effective in allowing access seekers to gain access to facilities in such circumstances.

For the reasons outlined above, we do not consider that the facilities access regime can significantly reduce the costs of an MNO seeking to extend its network into large parts of regional Australia where Telstra is the only operator with coverage. Nevertheless, the ACCC considers that it may be timely to review some aspects of the facilities access regime.

Optus, Telstra and VHA all use site-sharing or co-location across Australia. Telstra and Optus appear to use co-location arrangements most **[c-i-c]**. While we do not yet have regional co-location figures for VHA, we do know that VHA uses co-location arrangements extensively. VHA owns about **[c-i-c]**. We note that MNOs co-locate infrastructure at sites that are owned by non-MNOs, such as Axicom and Broadcast Australia. These arrangements are not subject to the facilities access regime. However, it also appears that MNOs offer co-location at their mobile towers, which would again suggest the facilities access regime is operating effectively, as shown by the Table 7 below.

¹⁹³ Telstra main submission, p. 40

¹⁹⁴ Optus submission, p.20.

¹⁹⁵ Optus submission, p. 28.

¹⁹⁶ Telstra main submission, p. 107-108.

¹⁹⁷ VHA main submission, p. 104.

Table 7 – Site sharing for each MNO Operator¹⁹⁸

[c-i-c]

We note that VHA has raised concerns that Telstra has engaged in a range of conduct which ‘frustrates’ sharing under the facilities access regime. Telstra has provided us with data about its sharing arrangements. This indicates that following an initial information request stage from another MNO, Telstra approves a large proportion of applications for co-location.

We are not persuaded by VHA’s assertions about the regime not being effective in allowing MNOs to co-locate on Telstra’s base stations. On the contrary, we think there is evidence to support a finding that the facilities access regime provides incentives for MNOs to reach agreements to co-locate.

Nevertheless we consider that there may be scope to review some aspects of the regime. For example, we consider that towers not owned by carriers could potentially be incorporated into the facilities access regime. This would provide more transparency and consistency regarding the use of such facilities.

Further, imposing a ‘use it or lose it’ obligation on MNOs when nominating a position on a mobile base station may encourage more effective infrastructure sharing and overcome the potential for one MNO to prevent others from being able to access a preferred position on the base station. Similarly, requiring MNOs to conduct pre-build discussions, particularly in areas of limited infrastructure based competition, may address concerns that base stations cannot accommodate equipment from other MNOs.

We seek views from stakeholders on these suggestions or other ways that infrastructure sharing could be increased to lead to coverage improvements.

9.3. Consideration of competition issues in the radiocommunications regulatory framework

Radiofrequency spectrum is an essential input to all wireless services. The ACCC is particularly interested in spectrum used for high-value communications services such as mobile services.

Australia was one of the first countries to implement property rights to increase efficiency of spectrum use. The *Radiocommunications Act 1992* and, importantly, the administration of the radiocommunications regulatory regime by the Australian Communications and Media Authority (the ACMA), has delivered significant economic benefits to Australians.

Despite the importance of spectrum to downstream mobiles markets, there is limited opportunity for consideration of competition in the existing framework. The ACCC’s involvement is limited to providing advice to the Minister for Communications, when requested, on the application of competition limits in spectrum allocations and in assessing acquisitions of spectrum licences under section 50 of the *Competition and Consumer Act 2010*.

The radiocommunications regime is currently under review. Following the 2015 Spectrum Review, the Department of Communications and the Arts released a Legislative Proposals Consultation Paper in 2016, outlining the approach to key provisions to be included in the new Radiocommunications Bill. The stated aim of the reforms are to “make Australia’s

¹⁹⁸ [c-i-c]

spectrum framework simpler, more efficient and flexible to use and better support innovative communication technologies and services.”¹⁹⁹

While our submission to the Legislative Proposals paper noted that the ACCC supports these aims, we also considered that there is a need for further reforms to deliver outcomes that are efficient and transparent, promote the LTIE and not just deliver a streamlining of regulatory processes. In particular, a new framework needs to recognise the impact of spectrum allocation and assignment on competition and efficiency in retail mobile services markets.²⁰⁰

The ACCC is starting to see complex issues arising in the spectrum markets that have implications for efficiency and competition in communications markets. Australia has a mature mobiles market with three operators who have all been in the market for more than twenty years. As noted above, TPG has announced its intention to build a network covering 80 per cent of the population within three years.

The explosion in demand for data-intensive mobile communications is likely to lead to spectrum becoming increasingly contested. Demand for spectrum suitable for high-value communications services is increasing to a point where supply constraints are being felt, particularly for new entrants. This is demonstrated by the prices in the recent 700 megahertz (MHz) auction (April 2017) where TPG paid \$2.75 per MHz per head of population (MHz/pop), compared with Telstra paying the reserve price of \$1.36/MHz/pop in the original digital dividend auction in 2013.

We are concerned that there is limited ability for the ACCC to ensure that competition and efficiency in retail mobile services markets is promoted by the spectrum regulatory regime. While we note the tension between promoting what is sometimes called ‘technical’ efficiency in spectrum management and promoting allocative, dynamic and productive efficiency in related markets, we consider an approach that would enable the ACCC to provide advice to the ACMA and Minister on general competition issues would enable Australia’s spectrum management framework to continue to provide strong outcomes for end-users in the long-term.

¹⁹⁹ See <https://www.communications.gov.au/have-your-say/spectrum-reform-legislative-proposals-consultation>.

²⁰⁰ The ACCC’s April 2016 public submission to the consultation process can be found here: <https://www.communications.gov.au/sites/g/files/net301/f/submissions/accc-redacted.pdf>

10. Conclusion

The ACCC has considered whether the difference in geographic coverage between the mobile networks has led to reduced competition or inefficient outcomes in mobile markets, and whether declaration of a mobile roaming service would address such concerns. In doing so, we have considered whether declaration will promote the LTIE by promoting competition, achieving any-to-any connectivity, and encouraging the economically efficient use of, and investment in, infrastructure.

Domestic mobile roaming services allow mobile subscribers of one network to use their mobile phones for calls, text messages and data services on another network in Australia when outside the coverage area of the network to which they subscribe.

The ACCC has reached the preliminary conclusion that declaration will not promote the LTIE.

The ACCC considers that competition in the national mobile services market is currently showing signs of being reasonably effective but is less effective in parts of regional, rural and remote Australia. However, while there is less or perhaps no choice of service provider for some consumers who require or value widespread geographic coverage, these consumers still benefit from greater competition in non-regional parts of the market through reductions in prices and greater plan inclusions.

The ACCC considers that declaration does have the potential to promote competition in the retail markets to a modest extent and consider there is a risk that some consumers could be left worse off. Therefore, we do not consider that declaration will promote competition to such an extent that it supports a decision to declare.

The ACCC finds that declaration will not assist in achieving any-to-any connectivity as this is already being achieved.

We consider declaration may result in some efficiency gains in allowing access seekers to use the excess capacity available on the access provider's existing infrastructure in areas where declaration would be likely to apply.

However, the ACCC considers that declaration would not promote economically efficient investment in infrastructure more generally. Declaration, coupled with an efficient regulated price, would in most cases promote efficient investment in infrastructure. However, given the lack of evidence that competition in the relevant markets is failing to deliver efficient outcomes, we cannot find that declaration is necessary. In such a case, there is a risk that declaration may in fact distort efficient investment incentives.

For all the above reasons, the ACCC's draft decision is not to declare a domestic mobile roaming service.

The ACCC recognises the concerns of consumers in regional, rural and remote areas regarding mobile network coverage and quality. We are interested in views on whether there are regulatory or policy measures that may improve competition and have identified measures that could improve transparency for consumers and improve the current regulation of inputs essential to delivering quality mobile networks.

Appendix A

Part XIC of the CCA sets out a telecommunications access regime. The access regime aims to promote the LTIE of telecommunications services by promoting competition through connectivity of any user to any other user no matter whose infrastructure is utilised for that purpose. The ACCC may declare an eligible service, making it subject to regulation under the Part XIC access regime.

An eligible service is a carriage service or a service that facilitates the supply of a carriage service.²⁰¹ A carriage service is defined in the *Telecommunications Act 1997* as a service for carrying communications by means of guided and/or unguided electromagnetic energy.²⁰² This includes communications services, such as telephone and internet services, that are provided using fixed-lines, satellite-based facilities, mobile towers and certain radio communications links. The unconditioned local loop service is an example of a carriage service, while services providing access to facilities (such as ducts and exchange space) are examples of services that facilitate the supply of carriage services.

Once a service is declared, an access provider (typically an infrastructure operator) that supplies the declared service to itself or others must also supply the service, upon request, to service providers (or access seekers) in accordance with the standard access obligations set out in section 152AR of the CCA. The ACCC must also commence a public inquiry into making an access determination for that service. The access determination may include a broad range of terms and conditions but must specify price or a method of ascertaining price.²⁰³

Declaration inquiries

Section 152AL(1) allows the ACCC to declare a specified eligible service if it:

- holds a public inquiry about its proposal to make a declaration
- prepares a report about the inquiry
- publishes that report within a 180 day period before any declaration is made, and
- is satisfied that the making of the declaration will promote the LTIE of carriage services or of services provided by means of carriage services.

Prior to commencing a public inquiry about a proposal to declare a service that is not already declared, the ACCC must consider whether to hold a public inquiry for an equivalent service that is supplied or capable of being supplied by a specified NBN Corporation.²⁰⁴

Where a service is already declared, under section 152ALA(7), the ACCC must commence an inquiry during the 18 months prior to the expiry of the declaration and determine whether to:

- Extend, revoke or vary the declaration
- Allow the declaration to expire without making a new declaration
- Allow the declaration to expire and then make a new declaration under section 152AL or

201 Where the service is supplied, or capable of being supplied, by a carrier or carriage service provider (whether to itself or other persons). CCA, subsection 152AL(1).

202 Telecommunications Act 1997, section 7.

203 CCA, subsections 152BC(3) and 152BC(8).

204 CCA, subsections 152AL(3), 152AL(3B) and 152AL(8A).

- Extend the declaration by a period of not more than 12 months and allow the declaration to expire without making a new declaration.

The ACCC can combine two or more public inquiries about proposals to declare services.²⁰⁵

Declaration ensures service providers have access to the inputs they need to supply competitive communications services to end-users on terms and conditions that promote the LTIE.

In deciding whether declaring the service would promote the LTIE, under section 152 AB(2), the ACCC must have regard to the extent to which declaration is likely to result in the achievement of the following three objectives:

- promoting competition in markets for listed services (which includes carriage services and services supplied by means of carriage services)
- achieving any-to-any connectivity (the ability of end-users on a particular network to communicate with end-users on any other network) and
- encouraging the efficient use of and investment in infrastructure by which the service is supplied, or are capable of being supplied.²⁰⁶

Once a service is declared:

- An access provider supplying the declared service to itself or another person must also supply the service, upon request, to service providers in accordance with the standard access obligations set out in section 152AR.
- The ACCC must commence a public inquiry within 30 days regarding making an access determination for that service.²⁰⁷ Access determinations can cover a broad range of terms and conditions but must specify price or a method of ascertaining price.²⁰⁸

The ACCC's approach to the LTIE test

The test under subsection 152AL(3) of the CCA is that the ACCC is satisfied that the making of the declaration will promote the LTIE. The subsection does not require the ACCC to be satisfied to a particular standard or require there to be an overwhelming case for declaration.

Consistent with previous declaration decisions, in deciding whether declaring the service would promote the LTIE, the ACCC will have regard to:

- the promotion of competition
- achieving any-to-any connectivity and
- encouraging efficient use of, and investment in, infrastructure.

Promoting competition

Competition is the process of rivalry between firms, where each firm is constrained in its price and output decisions by the activity of other firms. Competition benefits consumers (the end-users) through lower prices, the level of service quality preferred by end-users, and a greater choice of services.

²⁰⁵ CCA, section 152AN.

²⁰⁶ CCA, subsection 152AB(2). In determining the extent to which a particular thing is likely to result the achievement of promoting competition and encouraging the economically efficient use of, and the economically efficient investment in, the infrastructure, regard must be had to other matters listed in subsections 152AB(4), (6) and (7) CCA.

²⁰⁷ CCA, section 152BCI(1).

²⁰⁸ CCA, sections 152BC(3) and 152BC(8).

Competition may be inhibited where the structure of the market gives rise to market power. Market power is the ability of a firm or firms to constrain or manipulate the supply of products from the levels and quality that would be observed in a competitive market for a significant period of time.

An access regime such as Part XIC addresses the structure of a market, limiting or reducing the sources of market power, by allowing third parties to negotiate access to certain services on reasonable terms and conditions. Competition is promoted when market structures are altered such that the exercise of market power becomes more difficult. For example, barriers to entry may have been lowered (permitting more efficient competitors to enter a market and thereby constraining the pricing behaviour of the incumbents) or because the ability of firms to raise rivals' costs is restricted.

Subsection 152AB(4) of the CCA provides that, in determining the extent to which declaration is likely to result in the objective of 'promoting competition', regard must be had (but is not limited) to the extent to which declaration will remove obstacles to end-users of listed services gaining access to listed services.

Denying service providers access to necessary wholesale services on reasonable terms is a significant obstacle to end-users gaining access to services. Declaration can remove such obstacles by facilitating the entry of service providers, which promotes competition in markets supplying end-users.

When conducting a declaration inquiry, the ACCC is required under subsection 152AB(2) of the CCA to consider whether declaration of a service is likely to promote competition in relevant markets. The ACCC's approach to assessing this objective involves defining the relevant markets and assessing the level of competition in those markets. These concepts are explained below.

Identifying relevant markets

Section 4E of the CCA provides that the term "market" means a market in Australia for the goods or services under consideration, as well as any other goods or services that are substitutable for, or otherwise competitive with, those goods or services. The ACCC's approach to market definition is discussed in the ACCC's 2008 merger guidelines.²⁰⁹

Section 4E of the CCA provides that a market includes any goods or services that are substitutable for, or otherwise competitive with, the goods or services under analysis. Accordingly, substitution is key to market definition. The ACCC's approach to market definition in the 2008 merger guidelines focuses on two dimensions of substitution – the product dimension and the geographic dimension.²¹⁰

Substitution involves switching from one product to another in response to a change in the relative price, service or quality of the product that is the subject of the inquiry. There are two types of substitution:

- demand-side substitution, which involves customer switching, and
- supply-side substitution, which involves supplier switching.

There may be associated switching costs or difficulties which, if significant, can impede the substitutability of products.

²⁰⁹ ACCC, *Merger guidelines*, November 2008.

²¹⁰ *ibid*, pp. 15–19.

When considering whether a product is substitutable, the ACCC may consider customer attitudes, the function or end use of the technology, past behaviours of buyers, relative price levels, and physical and technical characteristics of a product.²¹¹

Delineation of the relevant geographic markets involves the identification of the area or areas over which a carrier or carriage service provider (CSP) and its rivals currently supply, or could supply, the relevant product.

Part XIC of the CCA does not require the ACCC to precisely define the scope of the relevant markets in a declaration inquiry. The ACCC considers that it is sufficient to broadly identify the scope of the relevant market(s) likely to be affected by the declaration. Accordingly, a market definition analysis under Part XIC should be seen in the context of shedding light on how declaration would or would not promote competition and the LTIE in those markets.

Assessing the state of competition

Once the relevant markets have been defined, the next step in the analysis is to assess the state of competition in relevant markets. If competition is determined to be effective, then declaration of the eligible services is not likely to have an effect in terms of promoting further competition or the LTIE. In assessing the state of competition, the ACCC considers dynamic factors such as the potential for sustainable competition to emerge and the extent to which the threat of entry (or expansion by existing suppliers) constrains pricing and output decisions.

At the theoretical level, the concept of 'perfect competition' describes a market structure in which no producer or consumer has the market power to influence prices. Economic theory suggests that perfectly competitive markets have a large number of buyers and sellers, goods or services are perfect substitutes, all firms and consumers have complete knowledge about the pricing/output decisions of others and all firms can freely enter and exit the relevant market. In reality, these conditions are rarely found in any market or industry, even those where competition between rival firms is relatively intense.

The concept of 'effective competition' recognises the practical limitations of the theory of perfect competition, especially when applied to the fixed-line telecommunications markets. Some characteristics of effective competition are that it:

- is more than the mere threat of competition – it requires that competitors are active in the market, holding a reasonably sustainable market position²¹²
- requires that, over the long run, prices are determined by underlying costs rather than the existence of market power
- requires that barriers to entry are sufficiently low and that the use of market power will be competed away in the long run, so that any degree of market power is only transitory
- requires that there be 'independent rivalry in all dimensions of the price/product/service [package]',²¹³ and
- does not preclude one party from holding a degree of market power from time to time but that power should 'pose no significant risk to present and future competition'.²¹⁴

211 A useful list of information the ACCC may consider when identifying close substitutes to the relevant product is contained in the 2008 Merger Guidelines, p. 19.

212 Olivier Boylaud and Biuseppe Nicoletti, *Regulation, market structure and performance in telecommunications*, OECD Economics Studies, no. 32, 2001/1.

213 Re Queensland Co-operative Milling Association Ltd and Defiance Holding Ltd (1976) 25 FLR 169.

214 This is not intended to be an exhaustive list of the characteristics of effective competition.

These five factors are indicators of the extent to which competition constrains market participants to supply products and services of a given quality at prices that are based on efficient costs.

When assessing whether effective competition exists in a relevant market, the ACCC examines certain structural and behavioural factors in the market, including but not limited to:

- structural factors, including the level of concentration in the market
- the potential for the development of competition in the market including planned entry, the size of the market and the existence and height of barriers to entry, expansion or exit in the relevant market
- the dynamic characteristics of the market, including growth, innovation and product differentiation as well as changes in costs and prices over time, and
- the nature and extent of vertical integration in the market.

Our assessment of the current state of competition during this review will be used to assist us in determining whether declaration will promote the LTIE.

Assessing the impact of the declaration on relevant markets

The next step is to assess the likely effect of the proposed declaration on competition in each relevant market. As noted above, subsection 152AB(4) requires regard to be had to the extent to which a particular thing will remove obstacles to end-users gaining access to listed services.

The ACCC generally considers it helpful to apply the future with and without test as one way to determine whether the LTIE will be promoted by declaration. The test will compare the likely future situation if the service was declared and the likely future situation without the service declaration before deciding which situation will promote the LTIE.

Any-to-any connectivity

The objective of any-to-any connectivity is achieved when each end-user is able to communicate with other end-users, whether or not they are connected to the same telecommunications network.²¹⁵

The any-to-any connectivity requirement is particularly relevant when considering services that require interconnection between different networks. When considering services which do not require user-to-user connections (such as carriage services that are inputs to an end-to-end service or distribution services, such as the carriage of pay television), this criterion is generally less of an issue.

Efficient use of and investment in infrastructure

In determining the extent to which declaration is likely to encourage the economically efficient use of, and investment in, infrastructure, subsections 152AB(6) and (7) of the CCA provide that regard must be had (but is not limited) to the technical feasibility of providing and charging for the services, the legitimate commercial interests of the supplier(s) of the services, and the incentives for investment in infrastructure.

Economic efficiency has three components:

215 CCA, subsection 152AB(8).

- *Productive efficiency* refers to the efficient use of resources within each firm to produce goods and services using the least cost combination of inputs.
- *Allocative efficiency* is the efficient allocation of resources across the economy to produce goods and services that are most valued by consumers.
- *Dynamic efficiency* refers to efficiencies flowing from innovation leading to the development of new services or improvements in production techniques. It also refers to the efficient deployment of resources between present and future uses so that the welfare of society is maximised over time.

Facilitating access plays an important role in ensuring that existing infrastructure is used efficiently where it is inefficient to duplicate the existing networks or network elements. An access regime must not discourage investment in networks or network elements where such investment is efficient.

Paragraph 152AB(6)(a) requires the ACCC to have regard to a number of specific matters in examining whether declaration is likely to lead to achievement of the objective in paragraph 152AB(2)(e).

Technical feasibility

In assessing the technical feasibility of supplying and charging for a service, the ACCC considers:

- the technology that is in use, available or likely to become available
- whether the costs that would be involved are reasonable or likely to become reasonable, and
- the effects or likely effects of supplying and charging for the service on the operation or performance of telecommunications networks.

The ACCC assesses the technical feasibility of supplying the relevant service by examining the access provider's ability to provide the service and considering experiences in other jurisdictions. The ACCC will look to an access provider to assess whether it is technically feasible to supply the relevant service, and will also consider experiences in other jurisdictions.

The legitimate commercial interests of the supplier

An infrastructure operator's legitimate commercial interests relate to its obligations to the owners of the firm, including the need to recover the costs of providing services and to earn a normal commercial return on the investment in infrastructure. Allowing for a normal commercial return on investment provides an appropriate incentive for the access provider to maintain, improve and invest in the efficient provision of the service.

Paragraph 152AB(6)(b) of the CCA also requires the ACCC to have regard to whether providing access may affect the infrastructure operator's ability to exploit economies of scale and scope. Economies of scale arise from a production process in which the average (or per unit) cost of production decreases as the firm's output increases. Economies of scope arise where it is less costly for one firm to produce two (or more) products than it is for two (or more) firms to each separately produce the relevant products.

Declaration may be more likely to impact on an infrastructure operator's ability to exploit economies of scope than economies of scale. A limit in the capacity available to the owner may constrain the number of services that the owner is able to provide using the infrastructure and thus prevent the realisation of economies of scope associated with the production of multiple services. In contrast, economies of scale derive from the use of the

capacity of the network and can be realised regardless of whether that capacity is being used by the owner or by other carriers or carriage service providers. The ACCC assesses the effects on an infrastructure operator's ability to exploit both economies of scale and scope on a case-by-case basis.

Incentives for investment

Infrastructure operators should have the incentive to invest efficiently in the infrastructure by which the services are supplied (or are capable, or likely to become capable, of being supplied). In determining incentives for investment, regard must be had (but is not limited) to the risks involved in making the investment.²¹⁶

Access regulation may promote efficient investment in infrastructure by avoiding the need for access seekers to duplicate existing infrastructure where duplication would be inefficient. It reduces the barriers to entry for competing providers of services to end-users and promotes efficient investments by these service providers in related equipment required to provide services to end-users.

Firms should have the incentive to invest efficiently in the infrastructure by which the services are supplied (or are capable, or are likely to become capable, of being supplied).

216 CCA, subsections 152AB(7A) and (7B).