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Domestic mobile roaming declaration inquiry

Discussion Paper

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1. 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). This discussion paper outlines the key issues for the inquiry and invites submissions from interested parties on these, and any other related issues.

1.1. Mobile roaming services

A mobile roaming service allows mobile subscribers of one network to use their mobile phones for calls, text messages and to access data services by means of another network in Australia when outside the coverage area of the network to which they subscribe.¹ A roaming service of itself will not increase mobile coverage into new areas. Rather, it will increase the areas in which customers on networks with less coverage than other networks can use their mobile services.

Mobile network coverage is an important feature of mobile services. For many consumers, it will be a key factor for choosing a mobile service provider, particularly consumers in regional areas. For mobile network operators (MNOs), it is an important differentiating feature on which they compete for customers.

The ACCC has considered whether to declare a mobile roaming service on two previous occasions. The first inquiry was held in 1998 and on that occasion, we decided not to declare a roaming service as we considered that while there would be competitive benefits from mobile roaming services, these benefits would likely be achieved without regulatory intervention as we were satisfied that services would be offered through commercial negotiations.

We examined the issue again in an inquiry conducted in 2005. We concluded in that inquiry that regulation of mobile roaming services could be in the long-term interests of end-users, as it was pro-competitive, would further the achievement of any-to-any connectivity and would encourage the efficient use of, and investment in infrastructure. However, we were satisfied that declaration was not necessary to ensure a roaming service was provided on a commercial basis.

Since those inquiries, each MNO has continued to extend its network to provide coverage to the majority of the population. However, while the difference in population coverage between the operators is small, the difference in geographic coverage is much greater.

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.

In deciding whether to commence this inquiry, we took into account requests from a number of sources for the ACCC to look at the issue again. The Regional Telecommunications Review 2015, the House of Representatives Standing Committee on Agriculture and Infrastructure Australia have all suggested mobile roaming services and infrastructure sharing could improve competition for mobile services in regional Australia.²

¹ We note that even if no roaming service is provided, mobile subscribers are still able to make emergency calls outside the coverage areas of their MNOs, as long as they are within the coverage areas of another MNO. Emergency calls cannot be made from mobile phones if there is no mobile coverage at all.

² Regional Telecommunications Independent Review Committee, *Regional Telecommunications Review 2015*, October 2015; House of Representatives Standing Committee on Agriculture and Industry, *Smart farming: inquiry into agricultural innovation*, May 2016; Infrastructure Australia, *Australian Infrastructure Plan*, February 2016.

The Regional Telecommunications Review found mobile services are particularly important to regional consumers who have a greater dependency on mobiles than consumers in urban areas.³ It also found that improved competition could provide additional benefits to regional consumers but acknowledged that infrastructure based competition is more difficult in regional areas where there is low network traffic.

The House of Representatives Standing Committee on Agriculture and Industry recommended that the Australian Government investigate incentives for MNOs to provide roaming services in rural and remote areas as a means of improving mobile services.⁴

Representatives of agricultural communities, including the National Farmers' Federation and the Victorian Farmers Federation have also publicly called on the ACCC to conduct an inquiry into mobile roaming services.⁵ The National Farmers' Federation has asked the ACCC to consider the possibility of roaming services being offered in regions.⁶ It has argued that this would improve competition and end network duplication.

In addition to these sources, 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.

This inquiry will focus on the impacts that declaration might have on competition in the mobiles market. It is argued by some stakeholders, including VHA and the Victorian Farmers' Federation, that declaration would promote retail competition in regional areas as it would give consumers greater choice. The counterview to that argument is that coverage is a key way in which MNOs compete and declaration could remove coverage as a basis for competition between the three MNOs. This is the argument raised by Telstra and Optus.

The third element that the inquiry will closely consider is the impact on investment incentives. While greater choice may bring short-term benefits to regional consumers, if investment incentives of MNOs to maintain, upgrade and extend their networks were removed or reduced, consumers will be disadvantaged over the long term.

1.1.1. Current regulatory arrangements and mobile roaming

A regulated mobile roaming service has some important differences to the current regulation of access to facilities and transmission services, which are discussed in detail in section 3. The facilities access regime under the *Telecommunications Act 1997* only requires that MNOs provide access to towers, tower sites, and associated facilities, so that another operator can install their own equipment.⁷ It is focused more on infrastructure sharing or co-location, but the access seeker is still required to provide their own radio access network and spectrum in order to provide mobile services.

Regulation of transmission services under the domestic transmission capacity service (DTCS) declaration requires that access be given to specified transmission services but transmission providers can offer other transmission services, including bundled services, on commercial terms and conditions.

³ Regional Telecommunications Independent Review Committee, *Regional Telecommunications Review 2015*, October 2015.

⁴ House of Representatives Standing Committee on Agriculture and Industry, *Smart farming: inquiry into agricultural innovation*, May 2016.

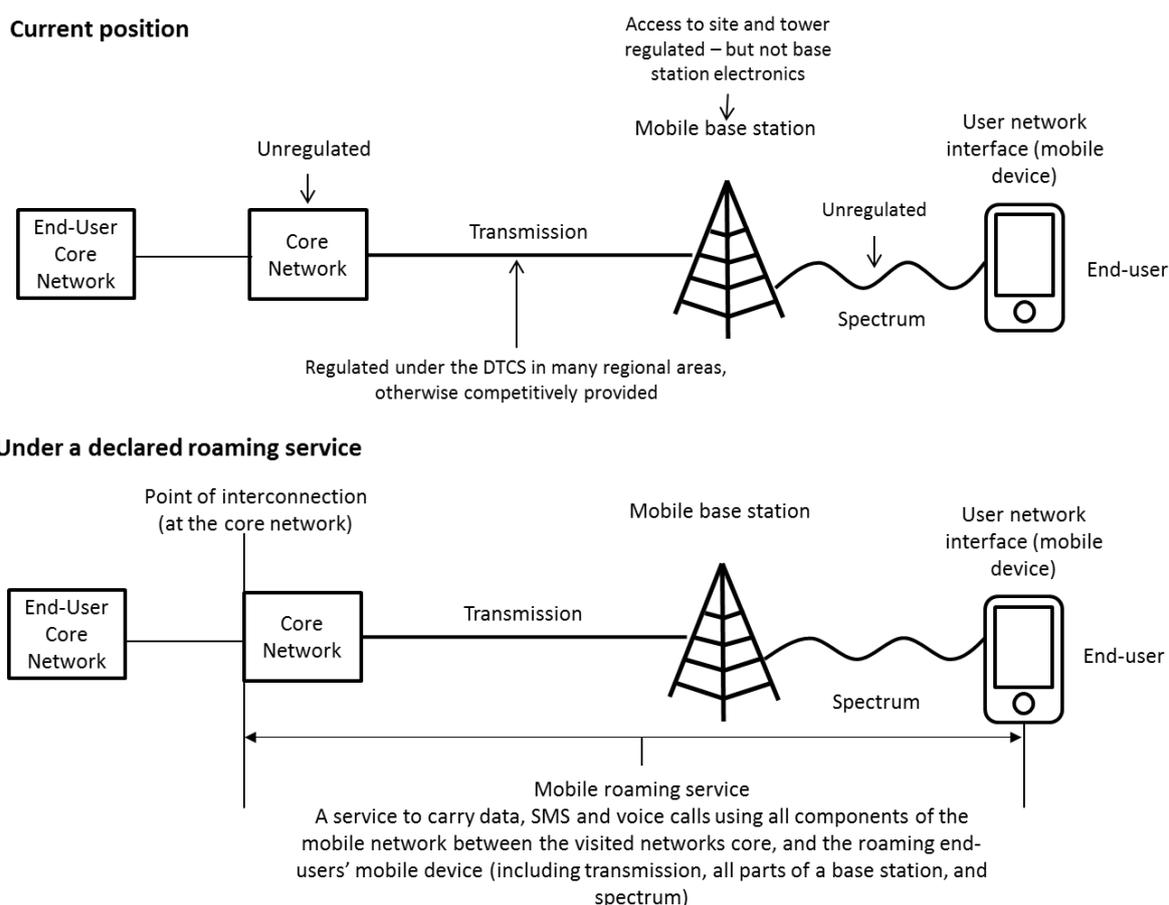
⁵ *Victorian Farmers Federation, Australia needs mobile phone roaming to deliver competition, say farmers*, 2 June 2016.

⁶ *National Farmers' Federation, NFF: Farmers and regions* <http://www.nff.org.au/read/5316/nff-farmers-regions-in-data-drought.html>

⁷ Schedule 1 of the *Telecommunications Act*.

Under a declared mobile roaming service, an MNO must provide a wholesale service to enable another MNO's end users to use mobile services in areas where the service is declared, by means of its network, using all necessary network components, including the spectrum, base stations (the radio access network), the transmission network and the core network. An MNO does not need to install their own equipment on the facilities of another MNO to use a mobile roaming service. Figure 1.1 illustrates the difference between the aspects of a mobile network that are currently regulated, and the aspects that would be regulated if a mobile roaming service was declared.

Figure 1.1 – Comparison of current access regulation and mobile roaming



Note: Under a declared roaming service, mobile roaming would not need to be provided across the entirety of an operator's network. Instead roaming would only need to be provided in areas where the service was declared.

1.2. Consultation process

We encourage industry participants, other stakeholders and the public more generally to consider and make submissions on the key issues set out in the paper, and any other submissions that parties consider to be relevant to our consideration. A full list of questions is set out at Appendix A.

The ACCC prefers to receive submissions in electronic form, either in PDF or Microsoft Word format, which allows the submission text to be searched. Submissions can be lodged on the ACCC's Consultation Hub, and are due by **25 November 2016**.

1.2.1. Confidentiality

We will consider all submissions we receive as public, and will post them on the ACCC website, unless the submission is identified as commercial-in-confidence. 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.

We have published a guideline setting out the process parties should follow when submitting confidential information to communications inquiries by the ACCC. The guideline is available on the [ACCC website](#).

The *ACCC-AER information policy: the collection, use and disclosure of information* 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 this policy is also available on the [ACCC website](#).

1.3. Related ACCC inquiries

On 5 September 2016, the ACCC released an issues paper for the communications industry market study. The market study will examine a broad range of issues which may impact competition and efficiency in communications markets. However, the market study will not cover issues about the declaration of a domestic mobile roaming. Further information on the market study is available at the [ACCC website](#).

1.4. Structure of the paper

The structure of the paper is as follows:

- Section 2 sets out the legislative framework and the ACCC's approach to assessment for declaration of telecommunications services
- Section 3 provides background about the supply of mobile services in Australia generally and outlines some issues for the supply of these services in regional areas.
- Section 4 set out the key issues for determining whether declaration will promote the LTIE. It examines the markets in which mobile roaming services would be provided and whether competition in these markets would be promoted if a roaming service was to be declared. It also examines the efficient use of infrastructure and the impact that declaration may have on investment incentives.
- Section 5 outlines issues that will arise if we do declare a mobile roaming service, including a proposed service description.
- Appendix A sets out a list of all questions in the discussion paper.
- Appendix B provides more detailed information on the legislative framework for declaration and the ACCC's general assessment approach.

We recognise there are significant differences between regional, rural and remote areas of Australia. However, for the purposes of this discussion paper, we use the word 'regional' to refer to regional, rural and remote areas unless otherwise specified.

2. Legislative framework and assessment approach

This section sets out the legislative framework under which the ACCC considers whether to declare access to a service and the approach we take to assess whether declaration will be in the long-term interests of end-users (LTIE).

2.1. Declaration framework

There is no general right to access telecommunications services in Australia, and access to telecommunications services is usually unregulated unless we have made a decision to declare or regulate the service.⁸ 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.⁹

We can declare a telecommunications service if (among other things) we are satisfied that doing so will be in the LTIE.¹⁰

If we have declared a service, we may also make an access determination for the service.¹¹ An access determination can set out both price and non-price terms in relation to access to the service.¹² Parties can rely on the terms and conditions set out in an access determination, or they can negotiate commercial terms and conditions.¹³ In this way an access determination usually serves as a fall back that parties can rely on if they are unable to otherwise reach agreement about access.

In deciding whether declaration will promote the LTIE, we 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
- encourage the economically efficient use of, and investment in, telecommunications infrastructure.¹⁴

We are 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.

2.1.1. Promoting competition

To determine whether declaration will promote competition, we 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 we will consider the market(s) which are relevant to the supply of the service, and any downstream markets which may rely upon this service. We will generally give most attention to the markets for downstream (or retail) services, as these

⁸ See, s 152AL, of the CCA

⁹ Section 152AR of the CCA.

¹⁰ See, s 152AL of the CCA.

¹¹ Section 152BC of the CCA.

¹² Terms and conditions in an access determination must include terms and conditions relating to price or a method of ascertaining price. See s 152BC(8) of the CCA.

¹³ Sections 152AY and 152BCC of the CCA.

¹⁴ Section 152AB of the CCA.

(rather than the upstream or wholesale markets) are usually the markets in which declaration may promote competition.

However, the ACCC does not need to take a definitive position on market definition, and market analysis under Part XIC of the CCA should be seen in the context of shedding light on how declaration would promote competition. In defining a relevant market, we also consider whether there are effective substitutes for the relevant service.

When assessing the current state of competition in a relevant market, we 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 competition to emerge.

In considering the effect that declaration will have on competition in a relevant markets, we 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.

2.1.2. 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.

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

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

- whether it is technically feasible to supply 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.¹⁵

When considering incentives for investment in infrastructure, we 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.

2.1.4. Further information

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

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

2.2. Economic rationale for declaration

Issues of access in telecommunications markets generally arise when one or more operators control upstream facilities that provide a service or other input that is necessary for the

¹⁵ See section 152AB(6) of the CCA.

provision of downstream services. Operators seeking to enter the downstream market must either purchase the upstream input from an operator who provides the good or service or produce the upstream input themselves, in order to be able to offer retail services to end-users. However, regulatory intervention to require access to an essential input will only be required if it is unlikely that competition will develop in the upstream market, such as where essential infrastructure has natural monopoly characteristics.

A network exhibits natural monopoly characteristics where it is more efficient for one set of infrastructure to supply and meet the total demand for the relevant service. Natural monopoly infrastructure is characterised by economies of scale, economies of scope and/or network economies. Where a network exhibits such characteristics, infrastructure competition will be unlikely to lead to efficient outcomes.

- Economies of scale exist where the unit cost of supply decreases as the quantity of products supplied increases. In the telecommunications industry, economies of scale mean that it will be cheaper to supply demand over a single network (up to the level of demand over which economies of scale exist), than over multiple competing networks.
- Economies of scope exist when the unit cost of supplying certain products is lower when those products are supplied using a single infrastructure facility than when different facilities are used to produce those products separately. In the telecommunications industry for instance, it may be possible for an operator to explore economies of scope by providing both fixed line and mobile services as some network facilities (such as transmission networks) can be used for both. This means that the average cost of providing mobile services for this integrated operator may be lower than the average cost of a mobile-only operator, everything else being equal.
- Network economies arise when there are lower costs, or benefits to consumers, from a larger customer base. Telecommunications networks are often characterised by network externalities because a network with a large customer base allows customers to make and receive calls from more people on the same network. If there are barriers to interconnection between networks, end-users will tend to prefer networks with larger customer bases because the costs of communicating with others will be lower when they are on the same network.¹⁶

Where a network exhibits natural monopoly characteristics, it has the potential to create significant barriers to entry because a new entrant is unlikely to receive a sufficient return on investing in new infrastructure. This allows the monopoly operator to charge monopoly prices for, or deny access to, the infrastructure. It may also mean that the monopoly operator has lower incentives to invest in upgrading or maintaining the infrastructure, or to adopt new technologies or innovations.

Requiring a network operator to provide access to bottleneck infrastructure could, by reducing barriers to entry and cost disadvantages for other firms, increase competition and promote the economically efficient investment in and use of infrastructure, and thereby promote the LTIE.

In assessing the impact of regulation on the economically efficient investment in and use of infrastructure, we consider economic efficiency comprises three components:

- productive (or technical) efficiency, which is achieved where individual firms produce the goods and services at least cost;

¹⁶ The effect of network economies is perhaps less pronounced in cases where interconnection between large and small networks are mandated and interconnection fees are regulated. For instance, in Australia, the mobile terminating access service (MTAS) requires an MNO to provide voice and SMS termination services on regulated prices upon request.

- allocative efficiency, which is achieved where resources are employed to produce products and services that are preferred (and most highly valued) by consumers; and
- dynamic efficiency, which reflects the timely adoption by firms of new technologies and development of innovative products in response to changes in consumer tastes and in production opportunities.

In regulating natural monopoly infrastructure, we aim to achieve the productive efficiency benefits of a single infrastructure operator while preventing or minimising the efficiency losses and higher prices that result from the use of monopoly power. In doing so, we endeavour to:

- ensure effective competition can occur in upstream and downstream markets; and
- promote efficient investment in natural monopoly infrastructure and related sunk investments upstream and downstream of the natural monopoly infrastructure.

3. The supply of mobile services in Australia

This section of the paper outlines the way in which mobile services are currently supplied in Australia, and some of the challenges of providing services in regional areas. It examines the role that coverage plays in the supply of mobile services, how differences in network coverage between the three operators may be affecting end-users of mobile services and some of the interventions that have occurred to promote coverage and competition in regional areas.

3.1. The state of the mobile sector

3.1.1. Wholesale mobile service markets

MNOs may supply two types of mobile wholesale services.

First, they may sell wholesale mobile services to mobile virtual network operators (MVNOs). These services are end-to-end services for mobile voice, text messaging and data services, which MVNOs then resell to consumers. This allows MVNOs to offer retail mobile services without operating their own mobile network. Each of the three MNOs provides wholesale mobile services to MVNOs on a national basis.

Second, MNOs may supply wholesale mobile services to each other. As noted above, mobile roaming services enable one MNO to provide retail mobile services to its customers in areas where it does not have network coverage, by using the network coverage of another MNO. We understand that currently in Australia, Optus provides mobile roaming services to VHA within a confined part of Optus' current network coverage on commercial terms and conditions. These arrangements are discussed further below.

Both wholesale MVNO services and domestic mobile roaming services are used as inputs to the provision of retail mobile services. MNOs provide these services with the understanding that they will enable their competitors (MVNOs or other MNOs) to better compete in the retail mobile services market which are discussed below.

3.1.2. Retail mobile service markets

Retail mobile services are currently supplied by the three MNOs and more than 60 MVNOs. The three MNOs each operate national mobile networks, and hold a collective market share of 90 per-cent of the retail market for mobile handset services.¹⁷ The remaining 10 per cent of the market is served by MVNOs.¹⁸

As discussed above, MVNOs do not operate their own mobile network but purchase wholesale services from MNOs which they resell to consumers. In addition, fixed line operators such as TPG, iiNet and Dodo also act as MVNOs to allow them to bundle their fixed line and mobile services.

There are two types of mobile services currently offered over mobile networks in Australia, mobile handset services and non-handset mobile broadband services. Mobile handset services are provided to consumers as a bundle of voice, SMS and broadband data services. Non-handset mobile broadband services are data services provided over a mobile network which a consumer can use on a tablet, laptop or other computer via a SIM card, wireless modem or dongle. For both handset and non-handset mobile services, the network

¹⁷ ACCC, *Competition in the Australian telecommunications sector*, February 2016, p 29.

¹⁸ Ibid.

technology (that is, 3G or 4G) and geographic coverage are important elements of the service offered to customers.

Mobile services are priced on a uniform basis nationally, and can be used by consumers in any areas where their mobile services provider has coverage. For this reason, we have previously found the retail mobiles market to be a national market.¹⁹

3.1.3. Mobile networks

In order to offer mobile services, a network operator must establish the network infrastructure. There are three key parts of that infrastructure: the radio access network, the backhaul network and the core network.

The radio access network is the part of a mobile network which connects end-users to the network, and consists of mobile base stations and radiofrequency spectrum. The backhaul or transmission network connects base stations to the core network, usually via fibre optic cable but also other technologies such as microwave transmission links. The core of the mobile network is usually located in mainland state capital cities, and performs functions such as switching, and is where interconnection with other networks occurs.

Mobile roaming services are offered in some parts of the market on a commercial basis. As noted above, Optus provides roaming services to VHA in some areas where both Telstra and Optus have coverage. However, VHA has said that wholesale mobile roaming services are not available to MNOs in areas where there is only a single MNO with coverage.

MVNOs can offer mobile services to end-users by purchasing a wholesale mobile service from a network operator. The service usually includes the technology (3G or 4G) as well as an area of coverage. Each of the MNOs provides mobile services to MVNOs. However, Telstra does not sell wholesale mobile services that include coverage across the whole of its network, and for roaming arrangements neither Telstra nor Optus offer coverage across the entirety of their networks.

3.1.4. Areas of competition

The ACCC has found in recent years that that competition for retail mobile services is effective, with mobile service providers competing on a number of different factors.²⁰ These factors include price and non-price features of retail mobile offers, the quality of service available and network coverage. The following discussion looks at these areas of competition in turn.

Price is a key area on which mobile service providers compete. During the ten year period between 2004–5 and 2014–15, priced based competition between operators has seen the average price of mobile services fall by over 25 per cent in real terms.²¹ Further, while there have only been minor reductions in the average real price of mobile services over the past few years, operators are still competing on the inclusions of their retail offers. In 2014–15 mobile service providers increased data inclusions in retail plans, and offered a wide range of plans that include unlimited voice and SMS.²² For example, between 2011–12 and 2014–15 the average monthly data allowance for post-paid and pre-paid plans grew by around 98 per cent.²³

¹⁹ For example, 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.

²⁰ ACCC, *Competition limits advice for 1800 MHz spectrum in regional areas*, May 2015, pp. 7–8.

²¹ ACCC, *Price changes for telecommunications services in Australia*, February 2016, p. 85.

²² ACCC, *Competition in the Australian telecommunications section*, February 2016, p 27.

²³ ACCC, *Price changes for telecommunications services in Australia*, February 2015, p 85.

In addition to price based features of mobile plans, mobile service providers also compete on non-price features, such as included content and unmetered use of streaming services. For example, Optus offers unmetered access to streaming services such as Spotify and Google Play on a number of its mobile plans, as well as sharing of data allowances across a number of devices. Telstra offers free access to Telstra Air Wi-Fi network, and free and unmetered access to Apple Music. Similarly VHA offers access to Spotify Premium, Stan and SMH online.

A second key area on which MNOs compete is quality of service. The MNOs compete on the quality of services available on their network, including available data rates, and depth of coverage. This is seen in the level of investment that each MNO has made in upgrading their mobile networks. For example, over the past five years each of the MNOs have made investments to deploy 4G mobile networks, which offer superior network performance compared to 3G networks in terms of speed and latency.²⁴ The MNOs' 4G networks now cover the majority of the Australian population.

Another important area of competition between the MNOs is coverage – both population coverage and increasingly, the extent of their geographic coverage. The geographic coverage of a network will be particularly important to consumers who live in areas where coverage may be more limited, or to consumers who travel frequently. The importance of coverage to competition between MNOs, is illustrated by the investment that each MNO has made to extend their network. Since 2005, each MNO has extended the coverage of their mobile network between 1.3 and 5 per cent more of the Australian population. As shown in Table 1.1 below, each of the networks covers a vast proportion of the population.

Table 1.1 Mobile network coverage in 2005 and 2016 (percentage of the Australian population)²⁵

	2005 2G Coverage	2016 3G coverage	2016 4G coverage
Optus	94	98.5	95
Telstra	98	99.3	98
VHA	92	97	96.9

Note: These figures include any population coverage achieved via current roaming agreements.

The level of investment from MNOs in extending their network coverage, and in upgrading their network technology, is significant. For example, Telstra reports that in the three years to June 2017 it will have invested over \$5 billion in its mobile network.²⁶ In 2015, Optus announced that it would increase its expenditure in both its mobile and fixed line networks to around \$1.7 billion over the next 12 months.²⁷ Similarly, in the three years to July 2015, VHA has invested around \$3 billion in its mobile network.²⁸

²⁴ Latency refers to the time needed to send a packet of data from one designated point to another. For instance, high latency may result in delays in loading a web page.

²⁵ See, Telstra, *Telstra Annual Report 2016*, p. 4; Optus, *Optus delivers resilient Q1 results, media release, 11 August 2016*; Hutchison Telecommunications, *2015 Annual Report*, p. 2.

²⁶ See, Telstra, *Telstra Annual Report 2015*, p. 6

²⁷ David Ramli, *Optus to raise infrastructure spending to \$1.77 billion as network competition heats up*, Australian Financial Review, 14 May 2015.

²⁸ David Ramli, *Telstra to spend \$5 billion in mobile war with Optus*, The Sydney Morning Herald, 9 July 2015.

3.1.5. Mobile services in regional Australia

Mobile services, including both handset and non-handset are offered by each MNO in regional areas for the same price and generally with the same inclusions, as they each offer in metropolitan areas. While the same quality of service is not available everywhere, as noted above, the MNOs are continuing to rollout technology and 4G services are now offered in many regions.

However, as also noted above, the geographic coverage of a network is a key area on which MNOs compete. Although there is infrastructure and network based competition across a large part of the mobiles market (covering 97 per cent of the population), the reach of each of the MNOs' networks is not equal, and there is less infrastructure based competition in regional parts of Australia.

Telstra's mobile network covers a considerably larger area than Optus' or VHA's mobile networks, such that for over 1 million km² Telstra is the only MNO with mobile coverage.²⁹ While this is a large area, it covers sparsely populated regional and remote parts of Australia. Only 0.8 per cent of the population live in areas where Telstra is the only MNO with coverage.³⁰ However, those who do not live in these areas will also be affected when travelling to these areas, as they will not be able to get mobile coverage unless they are on Telstra's network.

As discussed in more detail below, the difference in the MNOs' coverage in regional areas is likely due to the economically challenging nature of extending a mobile network in regional Australia. The low population density (and therefore low utilisation and potential commercial return) and high costs of extending a mobile network in these areas may mean that there are not strong incentives for MNOs to build infrastructure in these areas. Further, as discussed in more detail below, it may also mean that for at least some areas, the market can most efficiently be served by a single network.

The consequence of limited infrastructure competition and a lack of wholesale access to mobile networks in regional areas is that there is less choice available to consumers who live in, or who value coverage, in regional Australia in terms of service providers and offerings.

3.2. Economics of mobile networks in regional Australia

As discussed in chapter 2, the ACCC generally considers that declaration is likely to promote the LTIE where infrastructure facilities are enduring bottlenecks and exhibit natural monopoly characteristics.

A mobile network is different from a typical natural monopoly in that there can be multiple mobile networks in the same area. However, the economics of building mobile networks in sparsely populated areas of Australia, in particular the challenges faced by an MNO to extend its network into areas where there is already an existing MNO, means that in some regional areas, mobile networks exhibit natural monopoly characteristics. This has implications when assessing the efficient use of, and investment in, mobile networks in those areas which are discussed in later sections.

²⁹ Telstra's network currently covers 2.4 million km², Telstra, Our Network, viewed 4 October 2016, www.telstra.com.au/coverage-networks/our-network. In 2014, Optus' current population coverage, of 98.5 per cent of the population equated to a geographic coverage of approximately 1 million km², see *Telstra Corporation Ltd c Singtel Optus Pty Ltd* [2014] VSC 35.

³⁰ This is based on Telstra having a network which covers 99.3 per cent of the population, Optus a network of 98.5 per cent of the population and VHA 97 per cent of the population. See Telstra, Our Network viewed 4 October 2017, www.telstra.com.au/coverage-networks/our-network; Optus, Mobile Network Coverage, viewed at 4 October 2016, www.optus.com.au/shop/mobile/network/coverage; Vodafone, Vodafone announces Mobile Black Spot rollout schedule, 5 April 2016.

Building or extending a mobile network

To build a new network, or extend the reach of a mobile network, an MNO must take a number of steps. First, it must acquire the radiofrequency spectrum that can be used in areas where it wants to deploy mobile infrastructure. Second, it must establish new mobile base stations.³¹ This can include acquiring sites for the base stations, building tower infrastructure or seeking to share existing infrastructure, and locating equipment (such as antennas and base station electronics) on these towers. Third, new base stations also need to be connected back to the core part of the mobile network using transmission links. These transmission links can either be purchased from a transmission provider, or built by the MNO itself.

Challenges in building a regional mobile network

The steps required to build or extend a network require considerable investment and cost. There are additional challenges to building or extending a mobile network in regional areas, due to the size, geography and low population density in many areas. The fact that there is limited infrastructure based competition in these areas reflects these challenges.

Some of the challenges faced by MNOs when deciding whether to invest in regional Australia are discussed below.

It is particularly capital-intensive and requires a high level of sunk costs to build or extend network infrastructure in regional Australia. In regional areas, the size of the geographic areas to be covered mean that many base stations are needed to achieve continuous coverage. Further, as these areas are a long distance from capital cities, transmission links to connect the base stations are likely to be required over considerable distances.

While extending network coverage in regional areas involves substantial costs, low population densities mean an MNO cannot expect to yield as much revenue from extending its network in these areas as it would from building its network in metropolitan areas. In sparsely populated areas, extending a network will only result in minimal increases in revenue, if any. For example, most areas where there is limited infrastructure based competition are the least densely populated in Australia (less than one person per square kilometre). This compares to metropolitan areas of Australia, where population density is usually 100 or more people per square kilometre.³²

Therefore, building and connecting a mobile base station to extend the coverage of a network, may only result in a small number of potential new customers being able to receive services as a result of the extension.

However, we note that where an MNO has existing infrastructure or networks, they may not face the same obstacles when upgrading or establishing a network. For example, an MNO that has an extensive transmission network may face fewer obstacles when deciding whether to extend into particular areas if the transmission network could be readily used to link new base stations to its main network via existing transmission links.

There are two key implications arising from these challenges.

³¹ Depending on the topography of the area, the network technology, and the spectrum used, we understand a base station can cover an area with a radius of between about 300 meters and 22 km. See, Analysis Mason, *Updated final report for the AMCA: Mobile Network Infrastructure Forecast*, 10 June 2015, p 41.

³² See Population density by SA2 figure at Australian Bureau of Statistics, *3218.0 – Regional Population Growth, Australia, 2014-15*, viewed 4 October 2016, www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/3218.0Main%20Features152014-15?opendocument&tabname=Summary&prodno=3218.0&issue=2014-15&num=&view.

First, the high additional costs and low additional revenue that flow from extending networks into regional areas where there is low demand, is likely to impact incentives for MNOs to extend their mobile networks in regional areas. This is because MNOs may anticipate they will not be able to make a commercial return on their investment in these areas. Further, once an MNO has extended its network into certain regional areas, it may become uneconomic for a second MNO to extend their network into the same areas.

However, we note that the potential return to be made from consumers living in newly covered areas may not be the only reason MNOs invest in extending their mobile networks. For example, MNOs may still invest in regional areas where they do not expect to make a commercial return directly from new customers in the area because achieving wide geographic coverage will provide them with a competitive advantage in other areas. For example, it may help them to compete for customers who live in metropolitan areas, but who value wide geographic coverage.

Second, regional areas that involve relatively high incremental cost to serve but generate low additional revenue (due to low population and demand) may be more efficiently served by one mobile network. In metropolitan areas, high population densities tend to generate relatively higher demand for mobile services, so that multiple networks can operate profitably in these areas. However, the low population density of many regional areas, mean this is less likely to be the case and that infrastructure based competition could be less efficient.

We note that some parties argue that the barriers to an MNO extending their mobile network into regional areas are low. For instance, spectrum that is required for providing mobile services in regional areas has been allocated via competitive auctions and can be acquired by a party. There are also other programs and regulatory arrangements which can assist MNOs in extending their mobile networks which are discussed below.

3.3. Programs to address regional issues

There have been a number of government programs which acknowledge the economic challenges of extending networks in to low population areas, and have sought to improve competition and coverage of mobile services in regional Australia.

3.3.1. The Mobile Black Spots Programme

The federal government's Mobile Black Spots Programme aims to improve mobile coverage and competition in regional Australia by providing funds for MNOs to build or upgrade mobile base stations in regional, rural and remote areas of Australia which currently have poor, or no, mobile coverage. The federal government has committed a total of \$220 million funding to be allocated in three rounds. The first round was completed in June 2015, with 499 base stations to be built. The results of the second round are expected to be announced in late 2016.

In addition to improving coverage, the programme also aims to improve competition for mobile services in regional Australia. Under the guidelines for both the first and second allocation rounds MNOs who receive funding under the program must offer other MNOs the ability to co-locate at any base stations built under the program. However, the MNOs do not have to offer mobile roaming services at any government funded base stations built under the program.

3.3.2. Previous Regional mobile network extension programs

There have been a number of programs where government funding has been provided to assist MNOs extend their mobile networks to improve mobile coverage. Under such programs, MNOs have received funding or co-investment contributions from government

(federal and state) to improve coverage in regional and remote areas. Examples of these programs include:

- In 2002, Telstra received \$40.8 million from the federal government under the Regional Mobile Phone Program to achieve new and improve existing mobile coverage in 55 regional towns and 34 regional highways.³³
- In 2002, Vodafone received \$25 million from the federal government to extend its GSM network to provide new and improved mobile coverage along 9936 km of highways across five states.³⁴
- In 2012, the Western Australian government provided Telstra with \$39.2 million to deploy new mobile infrastructure at 113 sites along major roads and highways and in regional communities in Western Australia.³⁵

An area of interest for this inquiry the extent to which such government funding programs have assisted MNOs in extending or improving their mobile network coverage and the impact, if any, on competition.

Questions

1. How relevant have government funding programs been in assisting the MNOs in establishing their competitive positions in the mobile services market in regional areas? Please provide reasons for your view.

3.4. Current regulatory framework

In addition to specific program such as those discussed above, there are regulatory measures in place which can assist MNOs in extending their mobile networks into regional Australia.

The facilities access regime set out in the *Telecommunications Act 1997* (Telco Act) is intended to assist network operators access existing infrastructure, such as base stations and to encourage co-location. Similarly, access seekers can access specific transmission services at regulated prices to connect base stations to their core network. How effective these measures are is an important consideration when determining whether declaration of a roaming service is necessary to promote the LTIE.

3.4.1. The Facilities Access Regime

The facilities access regime aims to encourage the co-location of facilities where practicable and to promote competition by facilitating entry of new service providers.³⁶ The regime imposes obligations on owners or operators of telecommunications facilities to provide access to other network operators to these facilities.

Under the regime, an MNO can request access to another MNO's (the facilities owner's) facilities, including transmission towers, sites on which towers are located, and associated facilities. Access must be sought for the purpose of installing a facility in order to be able to provide competitive facilities and competitive carriage services or to establish their own facility.³⁷ The request must be reasonable and regard must be had to whether compliance

³³ Regional Telecommunications Inquiry, *Connecting Regional Australia*, November 2002, pp. 114–115.

³⁴ Ibid.

³⁵ Media statements by Western Australian government, 31 January 2012, [https://www.mediastatements.wa.gov.au/Pages/Barnett/2012/01/\\$392million-to-improve-telecoms-in-regions-.aspx](https://www.mediastatements.wa.gov.au/Pages/Barnett/2012/01/$392million-to-improve-telecoms-in-regions-.aspx).

³⁶ See schedule 1 of the *Telecommunications Act 1997* (Telco Act).

³⁷ See clause 33 of Schedule 1 to Telco Act..

with the request would promote the LTIE.³⁸ The terms and conditions of access to facilities under the regime are commercially negotiated, and where agreement cannot be reached by arbitration.

Electing to access existing mobile towers or tower sites under the facilities access regime could allow an MNO to extend their mobile network in regional areas at lower costs than if they were required to build or acquire their own tower facilities or sites. There may also be other benefits, such as allowing operators to extend networks more quickly, by avoiding the need to obtain local government approval for building towers.

However, some operators have commented that the facilities access regime is limited by the fact that an access seeker cannot always locate their equipment on existing infrastructure where they will be able to extend coverage. Further, even where an operator elects to co-locate their own equipment at existing facilities, they will still incur costs to extend their network. For example, an operator will need to purchase and install radio access equipment, such as antennas and receivers, and other base station electronics. They will also need to purchase transmission services or build their own transmission links, and will also need to have spectrum holdings in the area.

We are interested to understand how effective the facilities access regime is in allowing MNOs to extend their mobile networks, and the extent that it is currently used in metropolitan and regional areas.

3.4.2. Regulation of transmission services

As noted above, a key part of a mobile network is a backhaul or transmission network, as each base station must be connected by transmission links to carry traffic back to the core network. In regional areas, long transmission links will be required to connect base stations to the mainland capital cities. Mobile network operators need to either build their own transmission links or buy transmission services from an access provider.

Historically, the prices for long distance, high capacity transmission links have been very high as distance and capacity are the two key determinants of price. For operators that purchase transmission services, cost has been a significant component to be considered when deciding whether to extend a network.

The ACCC regulates domestic transmission capacity services (DTCS) in order to promote competition, and the efficient use of, and investment in, transmission networks used for mobile and fixed line services. Since 2012, the ACCC has also set prices for the regulated transmission service.

In 2015, the ACCC made a final access determination (FAD) for the DTCS. This FAD sets both price and non-price terms for access to the regulated transmission services, many of which are provided over routes in regional Australia. The prices set out in the 2015 DTCS FAD are significantly lower than those set in the previous FAD. We estimate that in comparison to the 2012 prices, the 2015 DTCS FAD average prices for long distance, high capacity services in regional areas fell by approximately 78 per cent (although we note that the actual reduction in prices on particular transmission routes depend on a number of factors).

The ACCC expects that the lower transmission prices will assist MNOs seeking to build new mobile stations or extend their network by reducing the transmission cost component of the investment.

³⁸ See clause 17(3) of Schedule 1 to Telco Act

Questions

2. What is the extent of mobile network co-location of infrastructure (or infrastructure sharing) in:
 - (a) regional Australia?
 - (b) metropolitan Australia?
3. How effective is the facilities access regime in promoting access to mobile network infrastructure, in both regional and metropolitan areas? Are there any limitations of the facilities access regime in facilitating the expansion of mobile networks in regional Australia?
4. Would more extensive co-location requirements be an effective substitute for mobile roaming services?
5. To what extent does regulation of the DTCS, including through regulated pricing, assist MNOs in extending their mobile networks in regional Australia? Please explain your views.

3.5. International regulation of domestic mobile roaming

The regulation of domestic mobile roaming services has been approached differently in different international jurisdictions. A number of OECD countries regulate domestic mobile roaming services, including Canada, New Zealand and the United States. Coverage has been one factor that has been considered in these jurisdictions. However, a number of countries have also considered the service but decided not to regulate mobile roaming, for example the United Kingdom, Ireland and Germany.

We are interested in stakeholders' views on how international approaches may be relevant to our consideration of whether to declare a mobile roaming service in Australia.

Questions

6. Are international arrangements for the regulation of mobile roaming relevant to the Australian market? Please provide reasons for your view.
7. Where have international regulators made decisions not to regulate domestic mobile roaming services? Are such decisions relevant to the regulation of mobile roaming in Australia? Please provide reasons for your views.
8. What has been the impact of regulation of mobile roaming on competition and investment internationally? If possible, please outline whether it has impacted investment in regional and metropolitan areas to different extents.

4. Promoting the long-term interests of end-users

This section discusses and seeks views from stakeholders on the likely effect on the LTIE if a domestic mobile roaming service was declared.

The service we have been asked to consider declaring is a roaming service that would be required to be offered by an MNO (access provider) that has coverage in a particular area to another MNO (access seeker) that does not have coverage. Because there is less infrastructure and network based competition in regional areas, it will mostly cover regional and remote areas where there is either one or two networks with coverage.

We will explore the service description of such a service in the next part of the paper. However, there are specific aspects of the service that will be relevant to our consideration of whether declaration would be in the LTIE. In particular, we will consider whether the scope of the service, for example only declaring a service in specific areas with limited infrastructure based competition or with technological limitations (for example, only 3G services), would impact competition in retail markets.

4.1. Declaration and the promotion of competition

As discussed earlier, the first element we must consider in deciding whether declaration of the specific service would be in the LTIE is whether declaration will promote competition in relevant communications markets. As discussed in Chapter 2, the approach we take to make this assessment is to:

- identify and define the relevant markets
- assess the state of competition in those markets, and
- consider the likely state of competition in those markets with and without declaration.³⁹

The following section discusses each of these issues in turn and seeks views on these issues.

4.1.1. Relevant markets

The first step in considering whether declaring a service will promote competition is to identify the relevant markets which may be impacted by declaring the service.

We generally consider two relevant markets in a declaration inquiry: the market in which the service in question is supplied, and the market in which declaration may affect competition.

Relevant market in which the service in question is supplied

We consider that the relevant market in which the service in question is supplied would be the market for wholesale mobile roaming services which MNOs supply to each other. This is because mobile roaming services are offered as a standalone service by one MNO to another, which is used as an input to the provision of retail mobile services. As noted earlier, the services would enable an MNO to provide retail mobile services in areas where they do not have their own mobile infrastructure. There is also no evidence that there are currently any substitutes for mobile roaming services and the only alternative to roaming for an MNO who wants to provide mobile services outside its existing network coverage areas is to deploy new mobile infrastructure in those areas.

³⁹ ACCC, *A guideline to the declaration provisions for telecommunications services under Part XIC of the Competition and Consumer Act 2010*, August 2016, p. 32-33

Relevant market in which declaration may affect competition

Our preliminary view is that the relevant market that may be affected by declaration of a regional mobile service and should therefore be considered in the inquiry is the national retail market for mobile services. This is because mobile roaming services will primarily be used by MNOs to provide services to their own retail customers in areas where they do not have coverage.⁴⁰

We consider that the retail market for mobile services is likely to be a national market.⁴¹ This is because mobile services are provided on a national basis, with consumers being able to use their services in any part of Australia where their service provider has coverage. Further, service providers have traditionally offered the same range of retail services in all areas that they have coverage, and at the same prices.

However, there are variations in each of the MNO's ability to provide mobile services in different regions of Australia. This variation may suggest that for some consumers, the service provided by an MNO that has larger coverage may not be substitutable with services provided by another MNO which has less coverage. This may mean that there are separate regional markets for mobile services in some parts of regional Australia..

Even if we determine that the retail market for mobile services is a national market, we may still consider the level of competition in different regions of Australia, and how declaration may affect these regions. For this reason, we are seeking submissions on the geographic scope of the retail market for mobile services.

Questions

9. What are the relevant markets for the declaration inquiry?
10. Is the relevant retail market a national market or are there separate regional markets for mobile services? If there are separate regional markets for mobile services, how would the boundaries of these markets be determined?

4.1.2. State of competition in the wholesale mobile roaming market

The state of competition in markets for wholesale domestic mobile roaming depends upon the area of Australia where these services are being offered.

As discussed above, mobile roaming agreements are currently in place in some regional areas where coverage is provided by two networks. However, in other areas where there are two MNOs with coverage or where there is only one MNO with coverage, it appears that domestic mobile roaming services are not currently offered. In those areas where a mobile roaming service is not offered, but there is a technical capacity to offer a service, the wholesale mobile roaming market would not appear to be competitive.

Questions

11. Please describe any mobile roaming arrangements currently in place and whether such arrangements have changed since the previous inquiry? Are current arrangements or agreements limited in terms of geographic scope or technology, and if so how?

⁴⁰ We note that there is also the potential for declaration of a mobile roaming service to impact MVNOs. This is discussed further below.

⁴¹ We note that this is consistent with the approach that we have taken in the past. For example, we 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.

12. Are there any current negotiations for new roaming agreements? Has there been any request for mobile roaming service which has been refused in the past three years? If so, what were the reasons for any such refusal?
13. Are roaming agreements for areas where there is limited infrastructure based competition likely to be reached in the future? Please provide reasons for your views.

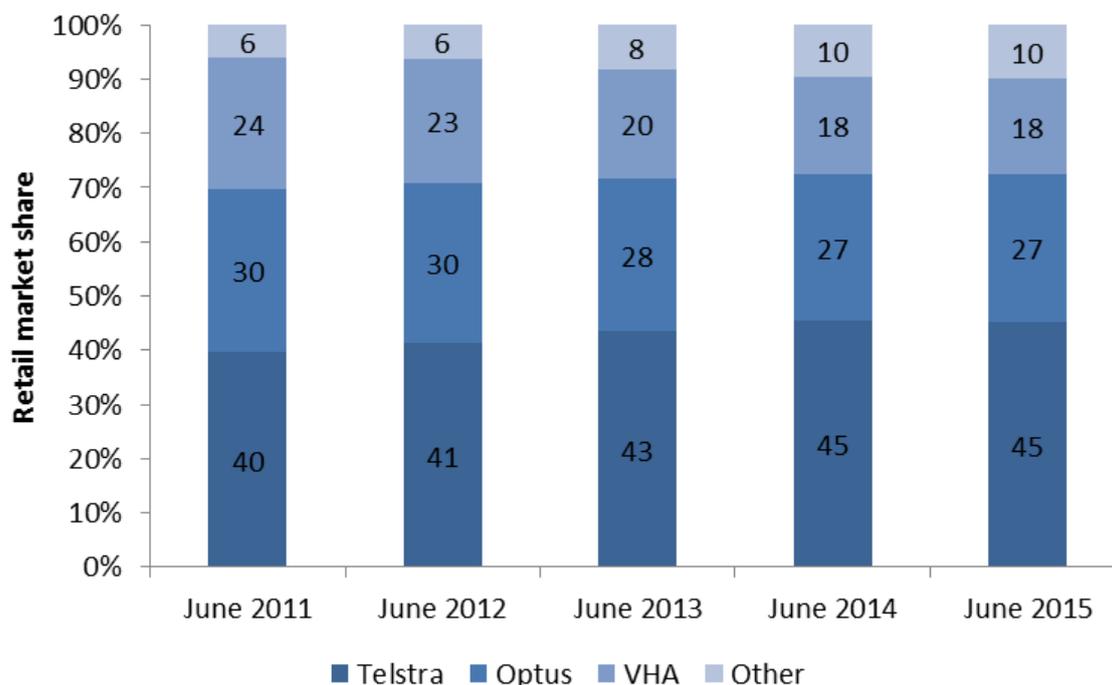
4.1.3. State of competition in the retail mobile services market

Competition for retail mobile services

Competition for the supply of retail mobile services in the national mobile services market is relatively effective. There is effective infrastructure based competition in large parts of Australia and MNOs compete for customers against each other and with MVNOs. As discussed above, service providers compete on a number of factors including coverage, quality of service, plan inclusions, customer service and prices. Consumers have benefitted from this competition through reduced prices, more retail offers and network expansions and upgrades.

However, even though there are indications that competition in the national mobile market is generally effective, Telstra has been the clear leader in the national retail market for mobile services for a number of years. As illustrated in Figure 4.1, between June 2011 and June 2015, Telstra's market share for retail mobile handset services has grown from 40 to 45 per cent, while Optus' and VHA's market shares have fallen.

Figure 4.1 – Retail market share for mobile handset services



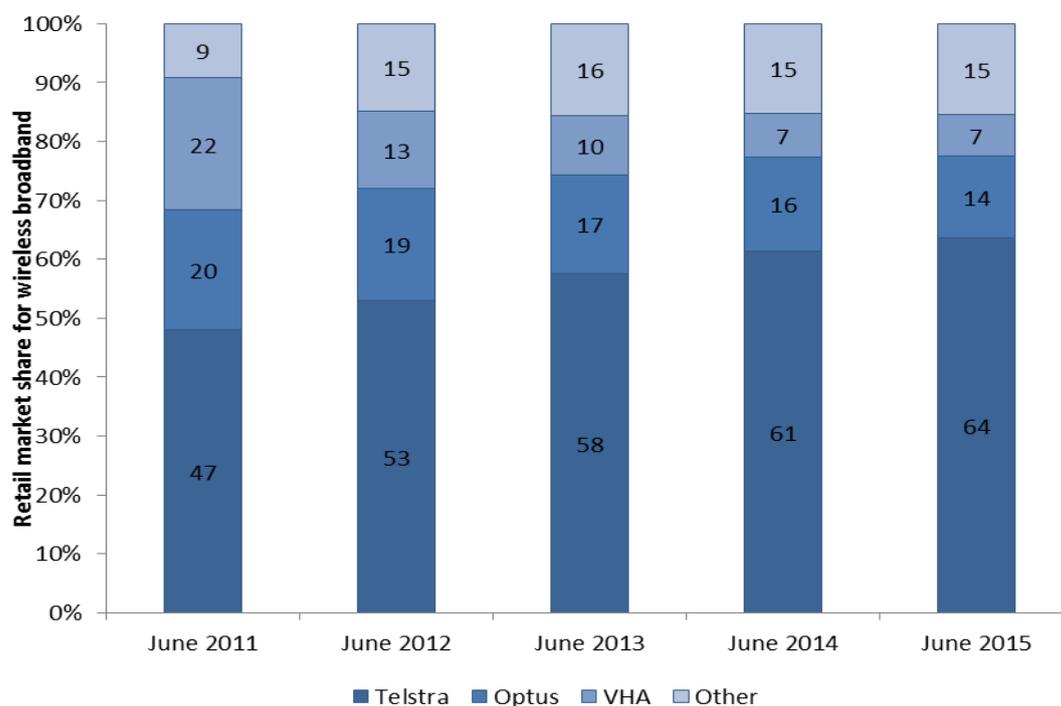
Source: ACCC Division 12 RKR and data from carriers.⁴²

Telstra's advantage is even more pronounced for non-handset mobile services (i.e. mobile broadband services provided using a tablet SIM, a wireless modem or dongle), as shown in

⁴² Optus' market share data includes Virgin Mobile subscribers (as it is a wholly owned subsidiary of Optus).

Figure 4.2. For non-handset services Telstra’s market share has grown by 17 percentage points during the same five year period.

Figure 4.2 – Retail market share for non-handset services



Source: ACCC Division 12 RKR and ABS *Internet Activity Australia (8153.0)*.

At the same time as maintaining a market share advantage, Telstra’s retail prices for mobile services have generally been higher than those of its competitors. For example, a report prepared for VHA by the Centre for International Economics in 2015 estimates that Telstra charges a premium over other operators of \$9 per month for mobile services.⁴³ More recently, an ACCAN report suggests that Telstra’s plans were approximately \$15 more expensive than similar plans offered by Optus or VHA.⁴⁴ This suggests that consumers are prepared to pay a higher price for Telstra’s services where there are competing providers.

A number of factors may have contributed to Telstra’s ability to charge a higher price for its mobile services. Consumers may be willing to pay more for Telstra’s services due to their perception that Telstra’s network is of superior quality and reliability compared to the networks of its competitors. It may also reflect the fact that Telstra has a much larger network and is the only MNO that provides coverage in many regional areas. The effect of this on consumers in regional areas is discussed further below.

Supply of mobile services in regional areas

Although competition in the national market for mobile services is relatively effective, consumers who live in areas where there is less infrastructure based competition, or consumers who value regional coverage, may not benefit from this competition to the same degree as other consumers.

⁴³ Centre for International Economics, Australia’s telecommunications market structure: The price premium paid by consumers, June 2015,

⁴⁴ Australian National University, *The state of competition in the Australian mobile resale market: A study of Australian MNOs and MVNOs*, January 2016.

Telstra is currently the only MNO with coverage in significant parts of Australia (an area of over 1 million km²). Further, Telstra is able to offer considerably more continuous mobile coverage in regional areas than either Optus or VHA, even in regions where there is infrastructure based competition. Optus and VHA often have coverage in more populous regional centres but have less coverage in the regions surrounding these centres (commonly called coverage ‘islands’). Telstra’s more continuous coverage may mean that it is seen by many in regional Australia as the only service provider that can meet their needs, particularly those who travel outside of, or between, regional centres frequently.

Overall, this coverage advantage may mean that the effective choice of service provider in regional areas is more limited than in other areas, and that Telstra has an advantage in competing for consumers who live in regional areas and those who value regional coverage.

This is reflected in Telstra’s market share in regional Australia, which is significantly higher than in the national market. For example, Optus has previously commented that it has a share of 22 per cent of the regional mobile market, Telstra a market share of 63 per cent in regional areas, and VHA a 6 per cent market share.⁴⁵ Further, a survey conducted by the Victorian Farmers Federation of over 500 farmers across Victoria, found that 88 per cent used Telstra as their mobile service provider.⁴⁶

However, while there are fewer service providers in regional areas and therefore less choice, regional consumers do appear to benefit from retail competition for mobile services in more populous parts of Australia. As mobile service providers do not price discriminate and offer the same retail services nationally (i.e. there does not appear to be any regional variation in retail services offered by mobile service providers), regional consumers pay the same for Telstra services as those in metropolitan areas where competing mobile services are available. Therefore consumers in regional areas may still benefit from the level of competition for mobile services in more populous (e.g. metropolitan) areas but may not have the same choice as other consumers, including choosing a lower priced plan.

As mentioned above, it appears that historically Telstra has charged more for mobile services than its competitors. This reflects consumers’ willingness to pay more for Telstra services, likely for a number of reasons including coverage but also their perceptions of the quality of network services. It could also be due to the fact that Telstra has higher network costs in operating a much larger network that need to be recovered. However, it also means that the average retail prices for mobile services for those consumers who require coverage in parts of regional Australia may be higher than in those areas where multiple MNOs have coverage. While some consumers (particularly those in metropolitan areas) may choose to pay a premium for the benefit of more extensive coverage, others (particular those located in Telstra only areas) do not have the choice of lower priced plans.

An important question in this respect is whether Telstra has been able to charge a higher price because it is the *only* MNO that is able to offer extensive network coverage in many regional areas or whether it is constrained by its competitors but is able to charge more because it offers a higher quality service. The extent to which Telstra may be able to do so is likely to depend on the proportion of consumers nationally that value the more extensive mobile coverage offered by Telstra in comparison to other MNOs.

⁴⁵ Optus, *Submission in response to Mobile Coverage Programme Discussion Paper*, February 2014.

⁴⁶ Victorian Farmers Federation, *Productivity Commission Inquiry, Telecommunications Universal Service Obligation: Victorian Farmers Federation Submission*, July 2016.

Questions

14. Is competition effective in the mobile services market and how does it differ in metropolitan and regional areas of Australia? Please provide evidence and reasons for your views.
15. How does Telstra's coverage advantage in areas where it is the only MNO affect its ability to compete for customers in the national retail mobile services market? How does this compare to its ability to compete for consumers in regional areas? Please provide evidence and reasons for your views.
16. What are the key drivers of competition for mobile services in metropolitan and regional areas of Australia?
17. Is there any regional variation (e.g. price, inclusions, terms and conditions) in retail mobile services offered in Australia? If yes, please provide evidence to support your views.
18. How does the price and range of Telstra's retail offers compare to those of other mobile service providers? Do you consider that the higher prices charged by Telstra in comparison to other mobile services on the market constitute a premium? What factors do you think contribute to Telstra's ability to charge a higher price? Please provide information about the level of any premium and evidence to support your views.
19. Is the extent of competition for mobile services in regional areas likely to change in the future in the absence of declaration? Please provide reasons for your views.

4.1.4. Effect of declaration on the wholesale mobile roaming market

In considering the effect of declaration on competition in relevant markets, the ACCC has usually given greatest consideration to the retail markets because this is where competition will more likely be seen. However, we may also see an effect in wholesale markets.

Declaration of a mobile roaming service will not change the way in which each MNO can offer roaming services (i.e. it will not change the coverage of each MNO's network), but it may still have the potential to impact competition in the upstream market.

For example, if roaming is declared in areas where there are two MNOs with coverage but where roaming is not currently provided, the fact that roaming services must be provided on request may mean that MNOs compete to be the provider of the service in the declared area so that they, and not their competitor, gain the access revenue for the service. Conversely, it is also possible that declaration could reduce incentives for MNOs to extend their mobile networks into areas where roaming is declared, which could prevent competitive mobile roaming services emerging in those areas in the future.

We are seeking views from stakeholders on how declaration may impact competition in this relevant market.

4.1.5. Effect of declaration on competition for retail mobile services

The key market in which declaration of a roaming service may promote competition is the retail market for mobile services. The following discussion examines some of the issues we consider may be relevant for assessing whether declaration will promote competition in this market.

Improving choice to consumers who value regional coverage

Advocates for the declaration of a mobile roaming service in Australia argue that a key benefit of declaration would be the improved choice of providers (and therefore, offerings) for

consumers who value regional coverage. As noted above, in areas where there are two or more MNOs with coverage there is a wide range of choice of service, with MNOs and MVNOs offering retail plans. However, in areas where only Telstra provides coverage there is less choice of service provider, and plan options, as Telstra is the only service provider who can offer retail services in these areas.

Currently, the three MNOs and over 60 MVNOs offer a wide range of retail services in areas where all three operators have network coverage, including in regional areas. For example, a report prepared for ACCAN recently found that at June 2015 there were at least 530 mobile plans available for consumers in areas where each of the MNOs could offer services.⁴⁷ For those consumers in Telstra only areas, where Telstra is the only provider who offers services, there are fewer retail offers available: as at June 2015 it is reported that Telstra offered 43 retail plans.⁴⁸ Declaration of mobile roaming may therefore benefit consumers by allowing them to have access to a greater range of available offers.

If we were to declare a roaming service, each MNO would be able to provide services over the same geographic area. The effect of this would be to remove network coverage as a factor on which MNOs seek to differentiate their services, and to limit the competitive advantage that an MNO enjoys from having more extensive network coverage. This in turn, would increase the attractiveness of MNOs that currently have less extensive geographic coverage to consumers in regional areas, and to those who value wider network coverage more generally. We note that removing coverage as a point of differentiation also has the potential to impact network investment, which is discussed further below.

If each MNO was able to provide services over the same geographic area, it may also improve the ability of MVNOs to compete in the national retail mobile market by increasing the areas in which they can provide services. If MNOs were able to provide wholesale MVNO services in areas where they roam onto the network of another MNO this could allow MVNOs to provide services in areas where there is currently limited infrastructure based competition.

There are three groups of consumers who would be likely to benefit from each MNO being able to achieve the same level of coverage.

First, it may benefit consumers who live in areas where there is only one MNO with network coverage by providing choice in these areas. For example, in areas where only Telstra has coverage, declaration may enable Optus, VHA and MVNOs to provide services. However, the scale of any benefit may be relatively small. This is because, as noted earlier, while the total area where Telstra is the only provider is large, it is sparsely populated. Approximately 0.8 per cent of the population, or around 200,000 people live in, or regularly travel between, areas where Telstra is the only service provider.

Second, declaration of a mobile roaming service has the potential to benefit consumers in regional areas more broadly. Telstra appears to have an advantage in competing in some regional areas where more than one MNO has coverage, due to its greater continuous mobile coverage. Declaration would likely enable Optus and VHA to achieve more continuous coverage in regional areas and between the regional centres where they currently have 'islands' of coverage. This would increase the effective choice of service provider for, and range of offers available to, regional consumers who live in these regional areas.

⁴⁷ Alex Richardson and Greg Shailer, *The state of competition in the Australian mobile resale market: A study of Australian MNOs and MVNOs*, January 2016.

⁴⁸ Ibid.

Third, declaration may allow MNOs to better compete for consumers who live in metropolitan areas, but who still require or value coverage in regional Australia. As noted earlier, mobile network coverage is an important differentiating factor for mobile service providers when competing for customers nationally. In particular consumers who live in metropolitan areas may value coverage in regional areas if they frequently travel to regional Australia for recreation, family or business. Other consumers may simply value wider network coverage.

More generally, the declaration will likely encourage MNOs to compete more intensely on factors other than network coverage, such as prices, customer service and other non-network related features.

However, we note that geographic coverage is only one factor that consumers will consider when selecting a service provider. Consumers also value, and MNOs compete on, price, inclusions, quality of service and depth of coverage within metropolitan areas. We are therefore interested to better understand how important geographic coverage in regional areas is to consumers nationally. We are also interested in understanding how the extent of a mobile service provider's total geographic coverage (as opposed to population coverage) may impact its ability to compete in the national mobile services market.

There is a question about the extent to which consumers in regional Australia will benefit if declaration resulted in greater choice of networks and products. For example, roaming may mean that consumers in regional Australia are better able to choose the mobile service provider that provides the best value given their particular needs and preferences, as there will be a wider range of offers available. The impact of declaration on competition in the mobile services market may also have the potential to put downward pressure on prices more generally, although the extent to which it may do so is unclear at this stage. However, as noted above, Telstra prices its services consistently nationally, and appears to offer the same range of offers in both metropolitan and regional parts of Australia. Therefore, if Telstra already offers a wide range of plans, it is possible that the benefits of greater choice will be minimal.

We are seeking stakeholders' views on the types of benefits that declaration may potentially bring to consumers in regional areas, and more generally.

Potential price increases

Although there is the potential for roaming to deliver lower prices for consumers, it is also possible that it may increase the retail prices of mobile services overall.

We note that regulated roaming may have the potential to disadvantage some consumers, such as those who do not value coverage in regional areas. As noted earlier, part of the reason that Telstra may charge a premium for its mobile services may be because it has higher network costs due to the larger size of its network (in terms of both coverage and technology). If VHA and Optus were to purchase roaming services, their costs would likely rise and it would be reasonable to assume that the higher costs would be passed on in higher retail prices. This could mean that consumers who do not value regional coverage, but wish to pay less for a mobile service, may be disadvantaged by declaration. Further higher prices may offset the potential advantages of declaration for consumers in regional areas who would benefit from a greater choice in mobile offerings as overall retail prices may increase.

Potential new entry

A key reason for regulating mobile roaming in other jurisdictions has often been to assist new entrants, or potential new entrants, enter mobile markets.⁴⁹ This is because mobile roaming can assist new entrants to achieve national coverage so they can grow their subscriber base while they build their own mobile network. Often, roaming services are accompanied by minimum coverage requirements or network build requirements that will encourage the new operator to build their network rather than rely on existing networks.

The structure of the mobile market in Australia is relatively stable. Since 2005 when we last looked at a mobile roaming service, the mobile services market has in fact, become more consolidated with the merger of Vodafone and Hutchison in 2011.⁵⁰

There are high barriers to entry for a mobile network operator, including spectrum costs and availability, as well as the costs of building the necessary infrastructure. It is currently unclear to what extent regulating a mobile roaming service by itself, may encourage new entrants to the market.

The scope of the service

As noted above, the scope of the service we are considering will affect our assessment of the extent to which declaration can potentially promote competition in retail mobile service markets. For example, if the geographic scope of the service was limited to areas where there is only one MNO, VHA may not achieve the same level of coverage as Telstra or Optus. This is because there are currently areas where both Optus and Telstra have coverage but VHA does not. It may also result in VHA having less continuous coverage than Optus or Telstra. Therefore, declaring in areas with only one MNO may mean that declaration promotes competition to a lesser extent than it would if the service was declared in areas where there are two MNOs with coverage. However, as noted in the discussion above, there is already infrastructure based competition in these areas.

Similarly, if we adopt a technological specific service description, (i.e. declare only 3G services and not 4G services), declaration may not allow Optus and VHA to compete with Telstra to the same extent as if a technology neutral service description was adopted. However, given the rapid expansion in 4G networks, there may be some practical limitations in limiting the scope of the service description.

We will examine the scope of the service further when we look at the potential service description that we should consider. However, we are seeking parties' views on the scope of a mobile roaming service and the impact on competition in retail markets.

Questions

20. How would declaration affect competition in markets for wholesale mobile services?
21. How would declaration affect competition for retail mobile services in regional areas and nationally? Please provide reasons and any available evidence for your views.
22. To what extent do consumers in regional Australia see Telstra as the most viable choice of service provider? If so, please provide an estimate of the proportion of such consumers and evidence to support your views.
23. To what extent do consumers in regional areas benefit from competition in the national retail mobile services market? Please explain your response.

⁴⁹ For example in Canada and New Zealand.

⁵⁰ The ACCC assessed the proposed merger under the informal clearance process and decided not to object to the proposed merger in 2009. See <http://registers.accc.gov.au/content/index.phtml/itemId/874445/fromItemId/751043>.

24. What are the key factors that influence consumer choice of service provider in
 - (a) metropolitan areas?
 - (b) regional areas?
25. How important is geographic coverage, as distinct from population coverage, to consumers living in metropolitan areas?
26. How important is geographic coverage to a mobile service provider's ability to compete in the national market for mobile services?
27. Does the level of geographic coverage on a network impact a provider's ability to compete for business customers to a greater extent than other customers? Please provide reasons for your views.
28. How is declaration of a mobile roaming service likely to benefit consumers in regional areas and more generally? Is it likely to disadvantage consumers or any groups of consumers in any way?
29. Is there potential for a new MNO to enter the mobile market in Australia? If so, to what extent would declaration facilitate their ability to enter and compete in the mobile market?
30. How may the scope of the declared service (such as geographic scope and technologies to be included) affect the extent to which declaration of a mobile roaming service may promote competition in the relevant markets?

4.2. Achievement of any-to-any connectivity

In considering whether we should declare a service we must have regard to whether declaration will promote the achievement of any-to-any connectivity in determining whether to declare a service.⁵¹ 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.⁵²

The achievement of any-to-any connectivity is particularly relevant when considering services that require interconnection between different networks. That is, it will usually be relevant where declaration of a service allows users on different network to connect to each other by promoting the interconnection of different networks.⁵³

Questions

31. To what extent would declaration of a mobile roaming service promote the achievement of any-to-any connectivity in relation to carriage services that involve communications between end-users?

4.3. Efficient investment and use of infrastructure

The third objective to which we must have regard when deciding whether to declare a service is whether declaration is likely to encourage economically efficient use of, and investment in, infrastructure.⁵⁴ In doing this we will examine efficiency from an economic perspective, which involves the consideration of productive efficiency, allocative efficiency

⁵¹ Section 152AB(2)(d) of the CCA.

⁵² Section 152AB(8) of the CCA.

⁵³ ACCC, *A guideline to the declaration provisions for telecommunications services under Part XIC of the Competition and Consumer Act 2010*, August 2016, p. 40.

⁵⁴ Section 152AB(2) of the CCA.

and dynamic efficiency.⁵⁵ In applying these concepts of efficiency, we will also have regard to the following matters:

- Whether it is, or is likely to become, technically feasible for services to be supplied and charged for.
- The legitimate commercial interests of the supplier or suppliers of the services, including the ability of the suppliers to exploit economies of scale and scope.
- The incentives for investment in infrastructure, including:
 - The infrastructure by which the services are supplied
 - Any other infrastructure by which the services are, or are likely to become, capable of being supplied.

4.3.1. Mobile networks and natural monopoly characteristics in regional Australia

As discussed in Chapter 2, the ACCC generally considers that declaration is likely to promote the LTIE where infrastructure facilities are enduring bottlenecks and exhibit natural monopoly characteristics.

A mobile network is different from a typical natural monopoly in that there can be multiple mobile networks in the same area. However, the economics of building mobile networks in sparsely populated areas of Australia, in particular the challenges faced by an MNO to extend its network into areas where there is already an existing MNO, means that in some regional areas, mobile networks exhibits natural monopoly characteristics. This has implications when assessing the efficient use of and investment in mobile networks in those areas.

Questions

32. Do mobile networks in regional Australia exhibit natural monopoly characteristics? Please provide reasons to support your view. If so, what are the implications of this for the assessment of the effect of declaration on the efficient use of, and investment in, infrastructure?
33. Are there barriers and challenges to extending a mobile network in metropolitan and regional areas of Australia and how significant are they?
34. What is the extent of the first mover advantage when extending into regional Australia? Has Telstra's position as the incumbent provider (for both fixed and mobile services) provided it with advantages in building a mobile network in regional areas? Please provide reasons and evidence to support your views.
35. What are the incentives to build or extend a mobile network in areas of regional Australia where population density is low?

4.3.2. Efficient use of infrastructure

Mobile roaming can potentially affect the use of mobile infrastructure as it brings additional traffic onto the access provider's network in areas where roaming is provided. This would increase the utilisation of the access provider's infrastructure, such as radio electronic equipment, spectrum and backhaul.

⁵⁵ ACCC, *A guideline to the declaration provisions for telecommunications services under Part XIC of the Competition and Consumer Act 2010*, August 2016, p. 42.

The impact that declaration of a mobile roaming service may have on the efficient use of mobile infrastructure is likely to depend on the level of capacity available on the access provider's network in areas where roaming is provided.

If the access provider's network is under-utilised in areas where roaming is offered, and there is sufficient excess capacity available to serve additional traffic, then the provision of roaming to other MNOs may enable the access provider to explore economies of scale to a greater extent and lead to more efficient use of its infrastructure. It is possible that where excess capacity does exist in a network, the access provider may have a commercial incentive to offer roaming to increase utilisation of its network. However, this incentive can be diminished if the provision could lead to increased retail competition.⁵⁶ In other words, even though the provision of roaming may reduce an access provider's average cost of providing mobile services, the loss in revenue resulting from increased competition may more than offset this such that the incentive to provide roaming is reduced or eliminated.

On the other hand, if the access provider's network is capacity constrained in areas where roaming is provided, the provision of roaming has the potential to increase the risk of network congestion. In this case, declaration of a roaming service could be considered to adversely affect the operation of the access provider's network. We note however that the risk of this may be reduced by the fact that the access provider is not required to provide a declared service to an access seeker if it would prevent the access provider from obtaining a sufficient amount of the service to be able to meet its reasonably anticipated requirements.⁵⁷

It is likely that if a mobile roaming service is declared, it will only be declared in areas with limited infrastructure competition (and in particular areas where only Telstra has coverage).⁵⁸ These areas are sparsely populated. It is likely that demand at most mobile base stations in these areas will be low (including the capacity of radio equipment, spectrum and backhaul), and network infrastructure is likely to be under-utilised rather than capacity constrained. However, we note that in some regions, there may be seasonal variations in demand for network capacity due to holiday periods where there is an influx of visitors.

The extent to which declaration may impact on the access provider's network will also depend on the amount of incremental traffic that mobile roaming may bring to the access provider's network. For instance, subscribers that live or work in, or frequently travel to, areas where only one MNO has coverage will likely generate the majority of mobile network traffic in these areas. However, these subscribers are likely to be already using the access provider's network so are unlikely to generate *additional* traffic if they switch to a different provider as a result of the declaration. Any increased utilisation of an access provider's networks in these areas is likely to be generated by additional traffic from subscribers of access seekers that visit these areas from time to time (e.g. travellers).

Questions

36. To what extent would declaration of a mobile roaming service promote the efficient use of the infrastructure used to provide mobile services?
37. How may the geographic scope of the service description affect the extent to which declaration could promote the efficient use of such infrastructure?

⁵⁶ ACCC, *Mobile Services Review: Mobile Domestic Inter-carrier Roaming Service Final decision on whether or not the Commission should declare a mobile domestic inter-carrier roaming service*, December 2004, p. 50.

⁵⁷ Section 152AR(4)(b) of the CCA.

⁵⁸ The geographic scope of a potential declared mobile roaming service is further discussed in **Chapter 5**.

4.3.3. Efficient investment in infrastructure

Ongoing investments by each of the MNOs are crucial to ensuring that end-users of mobile services continue to benefit from robust networks, more advanced mobile technologies and greater coverage. A key issue in the inquiry is to assess the impact that declaration of a domestic mobile roaming service would have on efficient investment in mobile infrastructure and, specifically whether it will affect MVNO's incentives to make such investments.

We discuss below the potential impact of declaration on investments of an access provider and access seeker respectively. Where an MNO is potentially both an access provider and an access seeker,⁵⁹ the effect of declaration on its investments is likely to be a combination of the effects discussed below. We seek stakeholders' views on the issues raised in the discussion as well as other factors which should be taken into account in assessing how the declaration may impact efficient investment in infrastructure.

Effect on access provider's efficient investment

How declaration may affect the access provider's incentives to invest

The declaration of a mobile roaming service is likely to impact an access provider's incentives to invest in extending its network reach and in upgrading its network. In the absence of declaration, a mobile operator will have an incentive to differentiate their network on the basis of coverage.

An access provider has a competitive advantage in the mobiles market by having coverage in areas where its competitors do not. It is able to continue to extend this competitive advantage by making ongoing investments to extend the reach of its network. In deciding whether to invest in mobile infrastructure in new areas, an access provider is likely to take this competitive advantage into account when assessing whether the investment is worthwhile. The access provider also has a legitimate business interest in being able to obtain exclusive benefit from its own investment. In some regional areas with very low population densities, even if the direct revenue from prospective customers located in the newly covered areas is low compared to the cost of investment, the competitive advantage that could be derived from the extended coverage (including revenues from customers located outside newly covered areas) may still justify the investment being made.

On the one hand, some parties argued that the declaration of a mobile roaming service would remove or reduce this competitive advantage and remove or reduce the incentives of an access provider to invest in many sparsely populated regional areas.⁶⁰ In other words, declaration is likely to have a dampening effect on the incentives of the access provider to invest to extend the reach of its network. While the access provider will receive additional revenue from the access seeker for the provision of roaming services, the fact that roaming is not commercially offered in areas where there is only one MNO suggests that this additional revenue is unlikely to offset the loss of competitive advantage that will result from the provision of roaming.

Similarly, it is argued that the declaration of a mobile roaming service may also reduce the incentives of an access provider in making investments in upgrading or improving its existing network (e.g. by deploying new generation mobile technologies or expanding network capacity) in areas where it has to provide roaming to its competitors.

⁵⁹ This situation may arise if a potential declared mobile roaming service applies to areas where there are currently two MNOs with coverage.

⁶⁰ See for example, Max Mason, Telstra, Vodafone trade blows over mobile roaming declaration, *The Financial Review*, 11 October 2016, <http://www.afr.com/business/telecommunications/telstra-vodafone-trade-blows-over-mobile-roaming-declaration-20161011-grzs0w>.

As discussed earlier, the MNOs compete in the deployment of new technologies to improve their mobile networks. Since 2005, all three MNOs have deployed their 3G networks and more recently 4G networks in competition with each other. These upgrades were driven by the availability of new technology standards, proliferation of smartphones and consumer demand for data and better network performance. An MNO not only has incentives to deploy new mobile technologies in areas where other MNOs have competing infrastructure, it may also have incentives to do so in areas where it is the only MNO. This is because the upgrade not only benefits end-users located in areas where it is the only MNO, but also end-users outside these areas who may travel to these areas from time to time.⁶¹ In other words, the upgrade contributes to the MNO's ability to compete in the national mobile services market.

The declaration of a mobile roaming service is unlikely to have an impact on the access provider's incentives to upgrade technologies in areas where there is competing infrastructure. However, it may reduce the access provider's incentives to do so in areas where it is the only MNO and is required to provide roaming to its competitors. This is because the access provider will not be able to gain exclusive benefit from these upgrades and will be required to share the benefits with its competitors.

On the other hand, it has been argued that there is no empirical evidence to support the view that the declaration of a mobile roaming service will dampen incentives of an access provider to make investment in mobile infrastructure. In fact, it has been suggested that it may increase such incentives as the revenues from providing roaming services can be used to fund further investments.⁶²

Whether access provider's investment would be efficient

The second element that it is necessary to consider is whether such investments would otherwise be efficient.

It is likely that investment in upgrading and improving existing network infrastructure, for instance, by upgrading to new generation mobile technologies, generally promotes dynamic efficiency. New mobile technologies provide more efficient means of delivering mobile services and enhance the capabilities of mobile networks to support more innovative services that develop from time to time. If declaration reduced MNOs' incentives to make these investments, it is likely to discourage efficient investments in mobile infrastructure and undermine dynamic efficiency.

It is unclear whether further investment made by an access provider, in particular, Telstra to further extend the reach of its network would be economically efficient.

Telstra's mobile network now covers around 2.4 million square kilometres or 99.3 per cent of the population. If the deployment of its network has reached a point where it is no longer efficient or economic to extend beyond its current coverage (taking into account benefits to all end-users regardless of where they are located), then the declaration of a roaming service is unlikely to have any material impact on further efficient investment in expanding network coverage.

While this is a difficult issue to ascertain, we consider that a number of factors may be relevant to assess whether this is likely to be the case. In a competitive mobiles market where MNOs compete in the reach of their network coverage, an MNO will be expected to

⁶¹ This differs from traditional theory where a network monopolist may not have sufficient incentives to upgrade its infrastructure due to the absence of competitive constraint. The difference is due to the fact that MNOs compete on coverage and this has implications on their incentives to invest.

⁶² See for example, Dan Lloyd, Regional Australia needs roaming, *The Australian*, 7 September 2016, <http://www.theaustralian.com.au/business/technology/opinion/regional-australia-needs-roaming/news-story/30ef403a24e15df42733851a4ed03bb8?nk=db624a71ed950d3ca6df2c1d0a2e5541-1476673473>.

continue to extend their networks to cover new areas until it is not economic or efficient to do so. How an MNO has extended the reach of its network over the years and whether it is continuing to do so is important information which may shed light on whether it is still efficient for an MNO to continue network extension. If there appears to have been little or no growth in network coverage for a sustained period of time or if incremental new coverage was only provided with the aid of government assistance, this may indicate that an MNO's network has reached the maximum efficient size given the geography of the country.

Effect on access seeker's efficient investment

How declaration may affect the access seeker's incentives to invest

The declaration of a domestic mobile roaming service is likely to impact an access seeker's incentives to invest in extending its network coverage into areas where it can access roaming.

On the one hand, the declaration of a mobile roaming service may reduce an access seeker's incentives to deploy its own network infrastructure in areas where it can access roaming. This is because, as implied by the discussion above, declaration removes the need to compete on coverage. The access seeker can provide its customers with the same coverage as customers of the access provider without having to expend the capital necessary for extending its own network. In the absence of declaration, an access seeker will be incentivised to close the gap in coverage between it and MNOs with greater network coverage.

On the other hand, some parties argue that access to roaming may facilitate the deployment of the access seeker's network extension and in doing so, provide incentives for an access seeker to invest in areas that it otherwise does not have the commercial incentives to do so.⁶³

For instance, in some areas where there is already an existing mobile network, an access seeker needs to make substantial investment up front but will not be able to recover the cost for many years because it takes time to gain market share in these areas. This may mean that the access seeker does not have sufficient commercial incentives to invest in these areas. Access to a roaming service would allow an access seeker to gain market share and earn revenues in these areas more quickly and may make it economic for the access seeker to progressively deploy its own network.⁶⁴

Another example is where declaration allows an access seeker to achieve continuous coverage so that it has incentives to invest in areas that are not contiguous to its own network footprint. It may be efficient for the access seeker to deploy a mobile network in some regional centres with sufficient population, but the centres may be surrounded by less populated areas in which it would not be efficient for the access seeker to deploy infrastructure. This would reduce the commercial incentives for the access seeker to deploy infrastructure in the regional centres because doing so would create 'coverage islands' in its network footprint which is unlikely to help it compete. Access to roaming connects these regional centres to the access seeker's own network footprint and therefore may provide incentives for the access seeker to invest in these areas.

The above discussion suggests two competing views as to how declaration is likely to impact an access seeker's incentives to invest in extending its network coverage. We seek views

⁶³ Ibid.

⁶⁴ For the same rationale, declaration of mobile roaming has the potential to encourage new entrants to deploy new mobile networks in Australia as they would have the potential to be able to gain market share more quickly while rolling out their own networks. However, the prospect of a fourth MNO in Australia is unclear at this stage.

and evidence on how the declaration of mobile roaming service may affect access seekers' incentives to extend its network coverage in areas where it can access roaming in Australia.

The declaration is unlikely to impact on the access seeker's incentives to upgrade or improve its existing network infrastructure. This is because there is likely to be competing infrastructure in areas where the access seeker has network coverage and declaration is unlikely to apply to these areas.

Whether access seeker's investment would be efficient

As noted in section 3.2 above, the economics of building mobile networks in Australia suggest that in many regional areas, it is likely that a mobile network exhibits natural monopoly characteristics. This means that once there is a mobile network, it may not be efficient for a second MNO to duplicate mobile infrastructure in those areas. As such, the declaration of a mobile roaming service will not discourage investments by the access seeker, as such investment would not be efficient.

If the declaration can be practically restricted to areas where it is not efficient for the access seeker to deploy its own network infrastructure, then the declaration is unlikely to adversely impact efficient investments by the access seeker. However, if the scope of the declaration cannot be restricted and encompasses areas where it is actually efficient for the access seeker to invest in, then whether the access seeker would otherwise have commercial incentives to invest in those areas would be important in determining the effect of the declaration on efficient investment.

We will seek information from the MNOs to help us assess this issue. The MNOs' future investment plans as well as detailed information on how they determine whether to invest in any particular areas would be particularly useful in making this assessment.

4.3.4. Options to address the effect of declaration on investment incentives

The above discussion suggests that the declaration has the potential to dampen the incentives of the MNOs to make investments in mobile infrastructure where these investments may otherwise be efficient. If evidence suggests that declaration is likely to have this impact, there may be options to address or alleviate some of these dampening effects.

One way in which the incentives to invest in upgrading mobile network technologies can be maintained is to allow the access provider to retain a point of differentiation in their services by restricting the declared service to certain technologies, such as 3G services. Such an approach would result in the access provider and access seeker having the same network coverage, but not the same quality of service. That is, the access provider would still retain the speed, latency and other performance benefits that it has gained from upgrading the network technology. It is arguable that declaration in this way may increase incentives to the access provider in rolling out new technologies in areas where it is the only MNO, as it is no longer able to differentiate on coverage alone.

This approach may also incentivise the access seeker to extend its network with 4G technology in areas where it can access roaming on the access provider's 3G network, if efficient to do so, in order to effectively compete with the access provider.

We seek stakeholders' views on this approach and whether there are other options that may address any potential dampening effect of the declaration on investment incentives of the MNOs.

Questions

38. How would declaration affect the incentives of an access provider to make investments in mobile infrastructure? Please provide evidence to support your views.
39. What factors should we consider when examining the economic efficiency of extending mobile networks into areas without network coverage? Is it likely to be efficient for Telstra to extend the reach of its mobile network beyond the current geographic coverage? Please provide reasons for your views.
40. To what extent is the declaration of a mobile roaming service likely to impact efficient investments by access providers in extending their network coverage and in upgrading their existing networks?
41. How would declaration affect the incentives of an access seeker to make investments in mobile infrastructure in order to:
- (a) extend their network coverage?
 - (b) upgrade their existing network ?
- Please provide evidence to support your views.
42. What factors should we consider when examining the economic efficiency of an access seeker in extending its network into areas where there is an existing mobile network? Would it be efficient for either Optus or VHA to extend their mobile networks into areas where only Telstra has mobile coverage? Please provide reasons for your views.
43. Would restricting the scope of any declared roaming service to services on 3G networks address any dampening effect of the declaration may have on the incentives of MNOs to make efficient investments in mobile infrastructure?

5. Considerations if the ACCC were to declare a domestic mobile roaming service

If the ACCC were to declare a domestic mobile roaming service it would be necessary to consider a service description and the scope of that service description as well as regulated pricing issues in making an access determination. This section of the paper discusses these issues to the extent that they may be relevant to our considerations of whether a mobile roaming service should be declared.

5.1. Services description and scope of the service

If we do decide to declare a mobile roaming service, a key element of the decision will be the appropriate scope of the service description.

At a functional level a domestic mobile roaming service is a wholesale service provided by one MNO (A) to another MNO (B), which:

- enables the subscribers of B to use mobile services by means of A's network
- in areas where A has coverage but B does not.

A's network is commonly known as the 'visited' network and B's network as the 'home' network.

There are a number of key issues that would need to be considered around the scope of the service description if we do determine to declare a mobile roaming service, including:

- the geographic areas that should be covered
- the network technology that should be covered, and
- the type of mobile services that should be included.

While we have not formed any views about whether a roaming service should be declared at this stage, it is important to examine these issues during the inquiry as they may affect the extent to which declaration of a mobile roaming service may promote the LTIE.

5.1.1. Geographic scope

We understand that it is technically possible to limit a mobile roaming service to particular regions, and even to specific base stations that are part of a mobile network. This means that it may be possible for MNOs to limit mobile roaming services to particular regions, such as where there is only one network. Therefore, it would also be possible to limit the declaration of a mobile roaming service to some parts of regional Australia.

As noted above, all three MNOs in Australia have extensive network coverage in metropolitan areas, but only some have network coverage in regional areas. As a result, we need to consider whether declaration of a mobile roaming service would be necessary in areas where there are multiple existing network operators or if it should only apply to areas where:

- there is limited choice of mobile service providers, and
- where infrastructure based competition has not emerged, and is unlikely to emerge.

There are a number of possible approaches to defining the geographic scope of a potential declared service.

The service description of the regulated transmission service, the DTCS, is limited to areas or routes where there are less than three access providers offering transmission in those areas. A similar approach could be used to determine whether it would be in the LTIE to only regulate mobile roaming in regions where mobile services are provided by only one MNO or where there are two MNOs providing coverage.

Another way to define the geographical scope is to limit declaration to areas with low population density. One of the factors that a network operator will weigh when considering extending their network into a new region is the likely return from the investment. In areas with low population density, the direct return from new customers in the expanded areas may not cover the cost of the investment, although there may be indirect returns from being able to offer wider coverage to customers nationally.

In considering these, and other options raised in submissions, we will have regard to the likely effect each will have on the promotion of competition and the efficient use of and investment in infrastructure.

5.1.2. Network technology

We generally describe declared services in functional terms on a technology neutral basis. This provides the access provider with the flexibility to determine the most efficient way to supply the service and ensures that with technological or innovative developments, the 'bottleneck' service continues to be declared. However, in deciding whether a service should be described in technology neutral terms, we will consider whether such an approach would reduce innovation or distort investment.⁶⁵

If a technology neutral mobile roaming service were to be declared, it would require the access provider to supply a roaming service on its mobile networks of all generations of technology if requested (for example, an access provider will be required to supply roaming on its 4G network in areas it has 4G coverage).

An alternative option could be to limit the application of the declaration to a particular network technology. This would allow a subscriber of the access seeker to continue to use mobile services outside the access seeker's coverage area but by means of connectivity limited to a specific technology (for example 3G), even though the subscriber may be using a device able to connect using a more advanced technology.

Each of these options is likely to have different effects on the promotion of competition and on access providers' investment incentives in the event of a declaration. We need to consider whether a technology neutral approach would be more or less likely to impact competition in the relevant markets in comparison to a technology specific alternative. Likewise we must consider how each of these, or other options proposed in submissions, would provide or remove incentives for efficient investment in mobile infrastructure.

We note that in assessing the suitability of a technology-specific approach we would need to consider some of its limitations. For example, the phasing out of the technology supporting the declared service could make the declaration inapplicable. In addition, a technology-bound declaration may imply that access providers could be prevented from supplying the service by means of the most cost-effective technology available at each stage of the regulatory period.

⁶⁵ ACCC, *A guideline to the declaration provisions for telecommunications services under Part XIC of the Competition and Consumer Act 2010*, August 2016, p. 25.

5.1.3. Types of services

In addition to network technology, a service description may specify the range of mobile services that are subject to declaration. Mobile services generally cover voice, short-messaging-services (SMS) and data services.

Publicly available data shows that voice, SMS and data services are all regularly used by Australian mobile users. As at May 2015, 94% of Australian had used their mobile phones to make calls in the previous six months and 84% had sent SMS using their mobiles.⁶⁶ Mobile phones have also become the most common way for consumers to access the internet.⁶⁷ Mobile data usage has increased significantly in recent years with data downloaded via handsets increasing by 85 per cent from June 2014 to June 2015.⁶⁸

A potential declaration of a regional mobile roaming service could cover these three services, as they are usually part of retail mobile offers and appear to be necessary to satisfy an average end-user's communications needs.

Alternatively, the service description could involve only part of those services, or include other mobile services proposed in submissions, if this was found to be in the LTIE.

Questions

44. If the ACCC were to declare a mobile roaming service:
- How should the service be described?
 - What would the appropriate geographic scope for the service be?
 - Should the service description be technology neutral or limited to certain technologies (e.g. 3G networks)? Please provide reasons for your views.
45. Should a declared mobile roaming service include mobile voice, SMS and data services?
46. Are there services that should be included or explicitly excluded? Please provide reasons to support your view.
47. Are there other matters which should be explicitly set out in the service description?

5.2. Regulated pricing for mobile roaming service

The ACCC normally considers regulated pricing for a declared service in a public inquiry for making a final access determination (FAD) after a service is declared. However, the question of whether regulated pricing would impact competition in the retail markets is a matter that may impact our assessment as to whether declaration would benefit end-users of mobile services.

The ACCC has usually considered that when the price reflects the cost of providing the declared service, it will promote competition and allocative efficiency in downstream markets where the declared service is an essential input. Further, a cost-based price that takes into account a reasonable return for investments can protect the legitimate commercial interests of the access provider and encourage efficient investment in the infrastructure used to provide the declared service in the long term.⁶⁹

⁶⁶ ACMA, *Communications Report 2014–15*, p. 50.

⁶⁷ ACCC, *Telecommunications reports 2014–15*, p. 16.

⁶⁸ *Ibid*, p. 18.

⁶⁹ See ACCC, *Mobile Terminating Access Service Final Access Determination Final Decision*, August 2015, p. 5.

However, in the context of a mobile roaming service, the application of a cost-based pricing approach may lead to higher costs for consumers.

As discussed above, mobile service providers have adopted national pricing for retail services. In practice, this means that service providers may cross-subsidise the high costs of investing in low density regional areas and the lower costs in investing in high density metropolitan areas. Setting a regulated price that reflects the higher cost of providing mobile services in regional areas means that an access seeker's average cost of providing services may increase. This increase in cost may potentially be passed onto consumers through higher national retail prices. Alternatively, access seekers may choose to apply an additional charge on consumers when they use roaming services outside the access seeker's coverage areas.

While some consumers and businesses may be willing to pay more for increased coverage, the increase in national retail prices may disadvantage those consumers who do not value the increase in network coverage (such as those consumers that live in metropolitan areas and do not travel much to regional areas).

Questions

48. How is the setting of a regulated price for a declared mobile roaming service likely to impact competition in the mobile services market? Would the costs of accessing a declared roaming service likely to be passed onto consumers by access seekers and if so, in what form (eg. higher retail prices)? Please provide reasons to support your view.

Appendix A – Consolidated list of questions

1. How relevant have government funding programs been in assisting the MNOs in establishing their competitive positions in the mobile services market in regional areas? Please provide reasons for your view.
2. What is the extent of mobile network co-location of infrastructure (or infrastructure sharing) in:
 - a. regional Australia?
 - b. metropolitan Australia?
3. How effective is the facilities access regime in promoting access to mobile network infrastructure, in both regional and metropolitan areas? Are there any limitations of the facilities access regime in facilitating the expansion of mobile networks in regional Australia?
4. Would more extensive co-location requirements be an effective substitute for mobile roaming services?
5. To what extent does regulation of the DTCS, including through regulated pricing, assist MNOs in extending their mobile networks in regional Australia? Please explain your views.
6. Are international arrangements for the regulation of mobile roaming relevant to the Australian market? Please provide reasons for your view.
7. Where have international regulators made decisions not to regulate domestic mobile roaming services? Are such decisions relevant to the regulation of mobile roaming in Australia? Please provide reasons for your views.
8. What has been the impact of regulation of mobile roaming on competition and investment internationally? If possible, please outline whether it has impacted investment in regional and metropolitan areas to different extents.
9. What are the relevant markets for the declaration inquiry?
10. Is the relevant retail market a national market or are there separate regional markets for mobile services? If there are separate regional markets for mobile services, how would the boundaries of these markets be determined?
11. Please describe any mobile roaming arrangements currently in place and whether such arrangements have changed since the previous inquiry? Are current arrangements or agreements limited in terms of geographic scope or technology, and if so how?
12. Are there any current negotiations for new roaming agreements? Has there been any request for mobile roaming service which has been refused in the past three years? If so, what were the reasons for any such refusal?
13. Are roaming agreements for areas where there is limited infrastructure based competition likely to be reached in the future? Please provide reasons for your views.
14. Is competition effective in the mobile services market and how does it differ in metropolitan and regional areas of Australia? Please provide evidence and reasons for your views.

15. How does Telstra's coverage advantage in areas where it is the only MNO affect its ability to compete for customers in the national retail mobile services market? How does this compare to its ability to compete for consumers in regional areas? Please provide evidence and reasons for your views.
16. What are the key drivers of competition for mobile services in metropolitan and regional areas of Australia?
17. Is there any regional variation (e.g. price, inclusions, terms and conditions) in retail mobile services offered in Australia? If yes, please provide evidence to support your views.
18. How does the price and range of Telstra's retail offers compare to those of other mobile service providers? Do you consider that the higher prices charged by Telstra in comparison to other mobile services on the market constitute a premium? What factors do you think contribute to Telstra's ability to charge a higher price? Please provide information about the level of any premium and evidence to support your views.
19. Is the extent of competition for mobile services in regional areas likely to change in the future in the absence of declaration? Please provide reasons for your views.
20. How would declaration affect competition in markets for wholesale mobile services?
21. How would declaration affect competition for retail mobile services in regional areas and nationally? Please provide reasons and any available evidence for your views.
22. To what extent do consumers in regional Australia see Telstra as the most viable choice of service provider? If so, please provide an estimate of the proportion of such consumers and evidence to support your views.
23. To what extent do consumers in regional areas benefit from competition in the national retail mobile services market? Please explain your response.
24. What are the key factors that influence consumer choice of service provider in:
 - a. metropolitan areas?
 - b. regional areas?
25. How important is geographic coverage, as distinct from population coverage, to consumers living in metropolitan areas?
26. How important is geographic coverage to a mobile service provider's ability to compete in the national market for mobile services?
27. Does the level of geographic coverage on a network impact a provider's ability to compete for business customers to a greater extent than other customers? Please provide reasons for your views.
28. How is declaration of a mobile roaming service likely to benefit consumers in regional areas and more generally? Is it likely to disadvantage consumers or any groups of consumers in any way?
29. Is there potential for a new MNO to enter the mobile market in Australia? If so, to what extent would declaration facilitate their ability to enter and compete in the mobile market?

30. How may the scope of the declared service (such as geographic scope and technologies to be included) affect the extent to which declaration of a mobile roaming service may promote competition in the relevant markets?
31. To what extent would declaration of a mobile roaming service promote the achievement of any-to-any connectivity in relation to carriage services that involve communications between end-users?
32. Do mobile networks in regional Australia exhibit natural monopoly characteristics? Please provide reasons to support your view. If so, what are the implications of this for the assessment of the effect of declaration on the efficient use of, and investment in, infrastructure?
33. Are there barriers and challenges to extending a mobile network in metropolitan and regional areas of Australia and how significant are they?
34. What is the extent of the first mover advantage when extending into regional Australia? Has Telstra's position as the incumbent provider (for both fixed and mobile services) provided it with advantages in building a mobile network in regional areas? Please provide reasons and evidence to support your views.
35. What are the incentives to build or extend a mobile network in areas of regional Australia where population density is low?
36. To what extent would declaration of a mobile roaming service promote the efficient use of the infrastructure used to provide mobile services?
37. How may the geographic scope of the service description affect the extent to which declaration could promote the efficient use of such infrastructure?
38. How would declaration affect the incentives of an access provider to make investments in mobile infrastructure? Please provide evidence to support your views.
39. What factors should we consider when examining the economic efficiency of extending mobile networks into areas without network coverage? Is it likely to be efficient for Telstra to extend the reach of its mobile network beyond the current geographic coverage? Please provide reasons for your views.
40. To what extent is the declaration of a mobile roaming service likely to impact efficient investments by access providers in extending their network coverage and in upgrading their existing networks?
41. How would declaration affect the incentives of an access seeker to make investments in mobile infrastructure in order to:
 - a. extend their network coverage?
 - b. upgrade their existing network ?Please provide evidence to support your views.
42. What factors should we consider when examining the economic efficiency of an access seeker to extending its network into areas where there is an existing mobile network? Would it be efficient for either Optus or VHA to extend their mobile networks into areas where only Telstra has mobile coverage? Please provide reasons for your views.

43. Would restricting the scope of any declared roaming service to services on 3G networks address any dampening effect of the declaration may have on the incentives of MNOs to make efficient investments in mobile infrastructure?
44. If the ACCC were to declare a mobile roaming service:
- a. How should the service be described?
 - b. What would the appropriate geographic scope for the service be?
 - c. Should the service description be technology neutral or limited to certain technologies (e.g. 3G networks)? Please provide reasons for your views.
45. Should a declared mobile roaming service include mobile voice, SMS and data services?
46. Are there services that should be included or explicitly excluded? Please provide reasons to support your view.
47. Are there other matters which should be explicitly set out in the service description?
48. How is the setting of a regulated price for a declared mobile roaming service likely to impact competition in the mobile services market? Would the costs of accessing a declared roaming service likely to be passed onto consumers by access seekers and if so, in what form (eg. higher retail prices)? Please provide reasons to support your view

Appendix B – Legislative framework and declaration assessment approach

Part XIC of the CCA sets out a telecommunications access regime. The access regime aims to promote the LTIE of telephone 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.⁷⁰ 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.⁷¹ 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 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.⁷²

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.⁷³

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

70 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).

71 Telecommunications Act 1997, section 7.

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

73 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.⁷⁴

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.⁷⁵

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.⁷⁶ Access determinations can cover a broad range of terms and conditions but must specify price or a method of ascertaining price.⁷⁷

The ACCC's approach to the LTIE test

In deciding whether declaring the service would promote the LTIE, the ACCC must have regard the achievement of:

- promoting 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.

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

⁷⁴ CCA, section 152AN.

⁷⁵ 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.

⁷⁶ CCA, section 152BCI(1).

⁷⁷ CCA, sections 152BC(3) and 152BC(8).

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.⁷⁸

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.⁷⁹

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.

⁷⁸ ACCC, *Merger guidelines*, November 2008.

⁷⁹ *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.⁸⁰

One of the methods the ACCC can use to determine if a product or service is a close substitute for the purposes of market definition is the hypothetical monopolist or ‘SSNIP’ test.⁸¹ The test establishes an area of product and geographic space over which a hypothetical monopolist would likely impose a ‘small but significant non-transitory increase in price’ (SSNIP). A SSNIP in the context of the hypothetical monopolist test usually consists of a price rise for the foreseeable future of 5 to 10 per cent above the price level that would prevail under competitive market conditions.

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 position⁸²
- 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

80 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.

81 SSNIP stands for small but significant non-transitory increase in price.

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

- requires that there be ‘independent rivalry in all dimensions of the price/product/service [package]’,⁸³ 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’.⁸⁴

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.⁸⁵

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.

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

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

85 CCA, subsection 152AB(8).

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:

- *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.⁸⁶

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).

⁸⁶ CCA, subsections 152AB(7A) and (7B).