

NON-CONFIDENTIAL VERSION

Issues arising in relation to the ACCC's domestic roaming declaration enquiry

1. My name is Richard Feasey. I have worked on telecommunications regulatory and competition matters throughout Europe, the US and Asia Pacific for 25 years. This included 12 years as Vodafone's Group Director of Public Policy, where my responsibilities included regulatory and competition matters in Australia and New Zealand.
2. My biography is attached as Annex A to this report. I have formed my own independent opinion, based on my experience, on a set of questions that arise in connection with the ACCC's Discussion Paper of October 2016 entitled 'Domestic Roaming Declaration Inquiry' and which have been asked of me by Vodafone Hutchison Australia ('Vodafone'). Those questions can be summarised as follows:
 - a. What could be the regulatory basis for the ACCC declaring a domestic roaming service which encompassed areas where both Telstra and Optus may currently have coverage (or where Telstra and Vodafone or Optus and Vodafone might do so), as well as in areas where there is only a single, monopoly network provider, generally Telstra?
 - b. How could the ACCC assess the competitive (and hence consumer) benefits from declaring a domestic roaming service?
 - c. [C-I-C]?
3. I provide a brief summary of my findings before addressing each question in turn in the remainder of this report. I address the first question in paragraphs 15-54, the second in paragraphs 55-95 and the third in paragraphs 96-152.

Summary of my findings

4. I find that the case for declaring a domestic roaming service in the geographic areas where Telstra enjoys a monopoly position is compelling. A vertically integrated monopolist does not have incentives to facilitate competition in downstream markets, except under conditions which do not apply in this case. Telstra's refusal to supply roaming in this part of its network footprint confirms that it will not do so absent regulation.
5. I consider that competition in Australia's retail mobile markets is ineffective as a result of Telstra's refusal to supply roaming. A relatively small number of consumers in regional Australia have no choice of supplier at all, since Telstra is the only firm to offer them coverage. A much larger number of consumers in suburban and urban areas which appear to be competitive are also 'captive' to Telstra because they value network coverage which neither of Telstra's rivals, Optus and Vodafone, is able to offer today. Both sets of 'captive' customers pay too much for their mobile services as a result. Another group which also values coverage simply cannot afford it at the prices charged by Telstra today.
6. A declaration which required Telstra to provide domestic roaming on its monopoly network only (i.e. in those areas where only Telstra provides coverage today) would not alleviate these concerns. Telstra might face more effective competition from Optus, but Vodafone would still not be an effective competitor since consumers will not accept coverage in some areas but not others. Knowing this, Telstra would have strong incentives to withhold the supply of roaming in undeclared duopoly areas (i.e. where both it and Optus provide coverage, but Vodafone does not) and Optus would have similar incentives. It is important that the ACCC recognises this complementarity between the supply of domestic roaming in the monopoly areas and supply in duopoly areas, and that the scope of the declaration encompasses both.
7. The consumer benefits that arise from such a declaration are difficult to quantify with precision. It is clear that a relatively small proportion of the total population – perhaps 2-3% - who currently have no choice of network provider would benefit from having such a choice. But they, and everybody else, benefit far more if competition in the metropolitan areas drives Telstra's nationally averaged prices down to more efficient levels. That will happen if Vodafone and Optus (and the MVNOS which they support) are able to offer a service that is broadly equivalent to that offered by Telstra to all of those consumers who value network coverage but must rely on Telstra today. That amounts to about a third of the country's population. In addition, consumers who cannot afford greater network coverage at the prices which Telstra charges today (and who

therefore subscribe to Vodafone or Optus instead) may be able to afford greater coverage under more competitive conditions.

8. Suggestions that retail prices would rise as a result of a declaration are unfounded. Most customers would either pay lower prices for the same service they buy today, or would pay less for a better service. Prices would only be higher if consumers who did not value coverage were nonetheless forced to pay for it in future. Competition means that Telstra is not able to do this today and it instead serves this group of customers through MVNO brands which allow it to offer more limited coverage for lower prices, whilst protecting the reputation of its main brand. It is even less likely to happen if the retail market were to become more competitive, in which case this group of consumers would, at worst, be unaffected by the declaration, and might see lower prices. Any consumers who do pay more for their mobile services will only be doing so to obtain greater coverage at a lower price than they could have paid before. In short, the declaration should result in more retail competition and lower margins for Telstra, and better services from Vodafone and Optus, all of which would mean that consumers will be better off in consequence.
9. Some argue for excluding certain technologies from the scope of the declaration on the grounds that Telstra needs to capture profits from exclusivity in order to be incentivised to invest in such technologies. This accepts that Telstra would not provide access to these assets absent regulation, and so supports the case for a declaration. There is then a difficult distinction to be drawn between replicating the incentives which a unregulated firm would face when investing in a competitive market, and allowing monopoly rents to fund inefficient levels of investment. There are no obvious ways to make such distinctions, or to decide what period of exclusivity might be sufficient to ensure one but not the other.
10. In addition, excluding a technology from the declaration will mean that any competitive benefits which might otherwise be derived from providing access to that technology are similarly excluded. If a large proportion of consumers value the new technology and will not accept substitutes for it, then they will remain 'captive' to Telstra in just the same way as they are today. Excluding technologies therefore runs the risk of neutering the declaration.
11. The ACCC would need to balance the long term consumer benefits that might be derived from any additional network investment against the competitive losses that would arise from exclusivity. Telstra should not be allowed to earn supernormal profits to make investments which it would not otherwise make under competitive conditions (even if such investments have been made by Telstra in the past). Given this, and the additional challenges involved in deriving a price for roaming using some technologies but not others, my own view is that it would be better

to safeguard investment by using appropriate pricing principles than by excluding particular technologies from the scope of the declaration.

12. If Telstra is required to supply domestic roaming in both the monopoly and the duopoly areas, then I see no additional consumer benefit (and some cost and complexity) from requiring Optus (or Vodafone) to supply as well. Optus (and Vodafone) would remain free to offer domestic roaming over its network on a commercial basis if it wished to do so.

[C-I-C]

ANSWERS TO QUESTION POSED

Question 1: What would be the basis for the ACCC declaring domestic roaming across both monopoly and duopoly areas?

13. I recognise that the ACCC is required by statute to step through a series of tests before it can declare a service. It is not my intention to assess whether these tests might be fulfilled, but rather to assess whether and why a declaration might extend to include both those geographic areas where Telstra enjoys a network monopoly and those where it does not, being areas where Optus also has network coverage, but Vodafone does not or where Vodafone has coverage, but Optus does not. For the purposes of this note, I refer to these as ‘monopoly’ and ‘duopoly’ areas respectively.
14. I also assume, for the purposes of this discussion, that the ACCC would not contemplate defining a domestic roaming service in those areas where all three of Telstra, Optus and Vodafone already have coverage (which I refer to as the ‘oligopoly’ or competitive area), since there is no fourth carrier to whom a domestic roaming service could be supplied and since I assume that including such an area within the scope of the declaration in these circumstances would be unlikely either to promote competition or the efficient use of infrastructure. This conclusion does not, of course, preclude the possibility of commercial arrangements between some or all of the carriers to share network assets or enter into other arrangements in these areas.

Oligopoly, duopoly and monopoly areas

15. I start by trying to understand the materiality of the issues we are concerned with. My understanding of the position, based on data provided to me by Vodafone, is summarised below:

Competitors	Area (km²)	% of Landmass	Population (2015 estimate)	% of Population
Vodafone, Optus and Telstra (oligopoly)	606,394	7.9% ¹	22,853,639	95.6%
Optus and Telstra (duopoly)	987,930	12.9%	23,471,041	98.2%
Telstra (monopoly)	2,414,406	31.4%	23,718,989	99.2%

16. The accuracy of this data could no doubt be improved, not least because I assume that Telstra will have coverage everywhere that either Vodafone or Optus have coverage, which may not in fact be the case, and because all three carriers have continued to expand network coverage, or have plans to do so, at least to some extent, after 2015. But these considerations are unlikely to affect my conclusions very much, which are both that Telstra enjoys a very significant coverage advantage over both Optus and Vodafone, and that Optus and Telstra both enjoy a significant coverage advantage over Vodafone. Note also that if population coverage is the relevant measure, then Optus and Telstra's joint advantage over Vodafone is far more material than Telstra's advantage over Optus, which represents coverage of only an additional 1% of the total population. On the other hand, if landmass is the relevant measure, then Telstra's advantage over Vodafone and Optus is far more significant than Optus and Telstra's advantage over Vodafone.

17. I address the issues of population and area coverage further when considering the second question I am asked to address. Here, it is sufficient to note that both are likely to be important to competition in the retail market. A declaration which enabled Vodafone to offer retail services only in monopoly areas would be of direct benefit to only 1% of the population living in those areas, but would offer everyone else the ability to roam over around 1.4 million km² (i.e. Telstra's 2.4 million km² footprint, less 400,000 km² it shares with Optus, less 600,000 km² Vodafone already covers). In this case, the direct benefits may be relatively small, given the size of the affected population, but the 'spillover' benefits of every Vodafone customer having access to 1.4 million km² of additional coverage could be very large. On the other hand, a declaration which enabled Vodafone to offer retail services only in duopoly areas promises greater direct benefits to

¹ I ignore here any additional coverage which Vodafone may currently obtain from the existing domestic roaming agreement with Optus, which is discussed later in this note. The figure here refers only to the coverage of the network operated by Vodafone itself.

a larger (but still small) proportion of the population (almost 3%) but smaller 'spillover' benefits to the entire Vodafone customer base given that it contributes a little less than 400km² of additional coverage.

18. This, of course, is to assume that all network coverage has the same value to those who might live in the area but who might seek access to it. In practice, I would expect some coverage to be more valuable than others in the sense that more consumers will be more likely to roam in some places (popular holiday resorts, highways etc) than in others. But it is not clear to me that consumers will always draw this distinction when it comes to selecting a carrier. In order to do so they would have to form a clear understanding of whether the places in which a carrier offers coverage correspond to those which they are likely to value. Of course, they are likely to do this in relation to the immediate area in which they normally live or travel (although I have known examples of consumers buying mobile subscriptions and finding that they have no service when they return home), but, even assuming that consumers could anticipate where they will travel in future, I am not sure many bother to check the coverage maps with any great care. I think it more likely that most consumers who value coverage will simply gravitate towards the network which claims the 'best coverage' (or, as Telstra say on their website 'the network without equal') on the assumption that this will offer the greatest probability of obtaining service whenever and wherever they require it in future. Similarly, if one network is widely known to offer significantly better coverage than the others, this is likely to be the network to which consumers gravitate, irrespective of whether or not, in any particular instance, other operators might also represent a viable alternative.
19. Consumer behaviour in other markets might inform our thinking. For example, if consumers valued coverage highly in specific areas but did not value it in others then we might, under competitive conditions, expect operators to offer products which reflected these preferences. For example, an operator might offer a cheaper tariff which provided coverage in certain, lower cost, parts of a country which certain consumers sought, but not allow access to other areas which they might never expect to visit. I have not seen such tariffs in other markets, which suggests to me that consumers tend to value 'coverage' in general or in the abstract, but do not otherwise discriminate between particular areas when selecting their carrier.
20. I therefore think it is reasonable to suppose that all coverage has equal or similar value for consumers and that they tend to assess networks by reference to the absolute quantity of coverage rather than making fine distinctions about different areas. 'Value' in this context is not measured simply or mainly by where consumers use the network or what they consume, but by the 'option value' or security of knowing that wherever they might wish to travel in future, the network they

subscribe to gives them the best prospect of obtaining service when they want it². It also means that absolute differences in coverage – the precise number of km² – are likely to be less important than the ability to claim to be the ‘biggest’ or the ‘unequaled’ network. Again, if this is right, the additional 400km² which both Telstra and Optus would enjoy over Vodafone in the absence of roaming in those areas where the former companies already offer coverage might be every bit as important as the additional 1.4 million km² which Telstra enjoys over both Optus and Vodafone. At the least, there is no reason to suppose the competition benefits that might be obtained from Vodafone roaming in the duopoly area would be any less than those that might be obtained from Vodafone and Optus roaming in the monopoly area. The competition benefits of roaming in both the duopoly and monopoly area will obviously then exceed those of roaming in either one or the other.

21. The fact that competition benefits in the retail mobile market associated with the provision of roaming in either or both areas might be significant does not, of course, mean the ACCC should declare the service in relation to either area. The ACCC has not done so in the past, including in 2004³, despite there being areas of monopoly and duopoly then. The main reason why the ACCC declined to declare a roaming service in 2004 appears to have been that roaming services were already being supplied on a commercial basis at the time of the enquiry and all parties declared themselves content with these arrangements.
22. This is not to say that the ACCC appeared altogether comfortable with relying on commercial arrangements in 2004. The position then was rather different from that we find today and it is useful to present my understanding of the facts as presented to the ACCC at the time:
 - a. Telstra operated a national CDMA network (with over 97% population coverage), whilst Hutchison, the other CDMA operator, had network coverage in only Sydney and Melbourne.
 - b. Telstra, Vodafone and Optus all provided GSM coverage across the nation but Telstra provided coverage to over 95% of population, Optus to over 94% and Vodafone to over

² My research elsewhere suggests that consumers of telecoms products often attach great value to such optionality under conditions of uncertainty. For example, European consumers of fibre to the home (FTTH) products often do not fully exploit the technical capabilities of the network they purchase, and could often find copper based products that could meet their actual or current needs at a similar or lower price. Yet most consumers are willing to pay more for FTTH in the knowledge that, whatever their future data requirements, this is the network that will be able to support them. Perceptions of mobile network coverage seem to me to have similar characteristics.

³ ACCC Mobile Services Review, Mobile Domestic Inter-carrier Roaming Service, Final Report, December 2004 (ACCC 2004) at <http://www.accc.gov.au/system/files/Final%20report%E2%80%9494mobile%20domestic%20inter-carrier%20roaming%20service.pdf>

92%. There was, therefore, an Optus/Telstra duopoly for around 2% of the population (but likely a larger landmass) and a Telstra GSM monopoly over around 1% of the population⁴.

- c. Telstra, Optus and Vodafone each provided satellite services (using Inmarsat, MobileSat and Globalstar respectively) to provide coverage (at much higher retail prices) in areas where there was no conventional mobile network coverage. Vodafone had sold its interest in Globalstar Australia to an independent third party in 2002.
- d. Only Hutchison had begun deploying a 3G or WCDMA network.
- e. Hutchison had secured roaming on the Telstra CDMA network on commercial terms in 1999, allowing its customers to roam outside of Sydney and Melbourne, apparently across the entire CDMA footprint⁵. Hutchison had also entered into a GSM roaming agreement with Vodafone to provide roaming outside of its WCDMA footprint (and some 'black spots' within it), but was due to switch to Telstra's GSM network in 2005⁶ (following the completion of a 3G network sharing agreement between the companies in 2004).
- f. Vodafone provided roaming to Globalstar, which it had previously owned, allowing customers with dual mode satellite/GSM handsets to roam on the Vodafone GSM network. Subsequently, Globalstar concluded a roaming agreement with Telstra for CDMA roaming, launching service in 2004⁷.
- g. Vodafone had obtained roaming on Telstra's GSM network to access certain highways in Victoria and Tasmania, which I assume represented a relatively small proportion of the overall Telstra GSM footprint.

23. In these circumstances, the Commission found it appropriate to draw a distinction between markets on the basis of technology rather than geography when assessing the likely impact of a declaration on competition. The Commission had earlier noted that in framing a declaration it would be minded to restrict the service description to geographic areas where '*competitive forces are likely to be weakest, and therefore the case for declaration the strongest*'⁸. The situation

⁴ This data taken from p.11 of the ACCC's 2004 Mobile Services Review paper, at <http://www.accc.gov.au/system/files/Discussion%20paper%20-%20Mobile%20services%20review%20-%20April%202004.pdf>

⁵ ACCC, 2004, p. 25

⁶ Ibid p. 28

⁷

http://www.acma.gov.au/webwr/radcomm/frequency_planning/radiofrequency_planning_topics/docs/globalstar.pdf

⁸ ACCC 2004, p.12

outlined above meant that Telstra was a monopoly supplier of CDMA roaming in all areas outside of the Hutchison footprint, whereas conditions of supply for GSM roaming were significantly more competitive, with the potential for oligopolistic competition extending to about 92% of the population, duopoly to about 94% and monopoly limited to the last 1% of the population, albeit a significantly greater proportion of the landmass.

Telstra's incentives to supply in monopoly areas

24. The Commission was, unsurprisingly, more troubled by the situation in relation to the supply of CDMA roaming than in relation to GSM roaming. It noted, rightly in my view, that a vertically integrated monopolist is in fact unlikely to supply an input to a downstream competitor except under very exceptional conditions. Much of telecoms (and other utility) regulation throughout the world rests on this assumption and it is why we impose regulated access obligations upon vertically integrated firms instead of allowing them to dictate the terms of trade for themselves. It is also why these firms sometimes argue for 'regulatory holidays' so that they may derive first mover advantages over their competitors from new networks which they might make. If these firms intended to provide access on a voluntary basis anyway, then a 'regulatory holiday' would have no impact on their incentives to invest and would be unnecessary.

25. The Commission summarised the standard argument in its Final Decision:

While supply is occurring in the absence of declaration, structural conditions in the national CDMA inter-carrier roaming services market do provide cause for concern as to whether supply will continue in the future and whether the terms and conditions of supply are reasonable.

The Commission acknowledges the views expressed by Telstra that incentives exist to provide roaming in order to increase utilisation of its CDMA network and therefore enable it to enjoy economies of scale. That said, CDMA inter-carrier roaming also increases competition from rivals such as Hutchison and Globalstar, which may diminish those incentives, particularly in the absence of competition from another supplier of CDMA inter-carrier roaming services.⁹

26. The economic literature on these issues is extensive, but the basic point is that, absent any regulatory obligations to do so, a vertically integrated monopolist would assess whether supplying a downstream competitor is more or less profitable than not doing so. It will consider the wholesale sales which it would make to its rival, but also the retail sales which it would expect to lose (including revenues it may forgo by cutting prices to retain other sales). There are some circumstances under which a vertically integrated monopolist would choose, unilaterally, to supply a downstream rival, but they tend to be very much the exception rather than the rule. For example, a vertically integrated firm might supply if it thought a rival would capture additional

⁹ Ibid p. 41

retail sales which it could not itself capture, perhaps because the rival had advantages in distribution or a product or brand which appealed to groups who would not otherwise buy from the monopolist, even if the alternative were not to buy at all..

27. How a vertically integrated firm feels about supplying a rival will also depend on the prices which the rival is prepared to pay. High wholesale prices would have the effect of both increasing the margin which a supplier of roaming services would earn from additional wholesale sales, and of increasing the retail prices offered by the purchaser of roaming , thereby reducing the retail losses incurred by the supplier. Thus, even if a monopolist has unilateral incentives to supply a rival, it is very unlikely to be on terms which could be expected to promote effective competition in the downstream market. The ACCC did not have ‘sufficient data indicating that the terms and conditions [were] unreasonable’¹⁰ and it is always, in my experience, difficult for a regulator to conclude that terms are unreasonable when the firms to whom they apply appears to be a satisfied buyer.

28. The facts today, as I understand them, are as follows:

- a. Telstra offers wholesale access to MVNOs on a ‘wholesale footprint’ which represents 98.3% of the population and 14% of the landmass¹¹. This compares to the ‘duopoly’ area of 98.2% and 13% respectively, meaning that they are approximately the same. Optus and Vodafone each provide wholesale access to MVNOs in competition with Telstra over their respective networks.
- b. Telstra does not supply domestic roaming services to either Vodafone or Optus today.
- c. [C-I-C]

29. Before we get to facts, theory should also play a role. The ACCC should in my view start from the assumption that Telstra will have no incentive to supply, either at all or on reasonable terms, when it holds a monopoly position. That is, even if retail demand from the likes of Globalstar might have been additive in 2004, I see no reason to suppose that any retail sales made by

¹⁰ Ibid p.41

¹¹ I understand that that Telstra may have a special commercial arrangement with one, rather small, MVNO on its network (Boost), which may obtain access to the full Telstra footprint (but with throttled speeds).

Vodafone or Optus would be anything other than substitutional for Telstra's own retail sales today.

30. Monopolists sometimes argue that they are entitled to refuse to supply if they face capacity constraints or if the costs of executing the arrangement outweigh any conceivable benefits. These points may be related, but need not be. However, I very much doubt whether either apply in this enquiry. The nature of the network in the Telstra monopoly area, and the density of the population it serves, together mean that there is likely to be very substantial excess capacity. I note that Telstra's argument in 2004 that it had strong unilateral incentives to offer roaming to third parties relied on the assumption that it had excess capacity which it could fill with their traffic, lowering unit costs for all. Given Telstra's claims about the investments it has made in its regional network since then, I very much doubt it faces significant capacity constraints or that carrying traffic from Vodafone or Optus (much of which would be substitutional in any event) would lead it to face such constraints. Similarly, I would not expect the costs of implementing domestic roaming to be prohibitive, given the fact that roaming arrangements have been implemented in many other markets, as well in Australia in the past. I regard any technical implementation costs as simply another factor, alongside the loss in downstream revenues and margins, in the trade off which a monopolist will make when considering whether to supply access. They may be reflected in the access price but they do not, in themselves, justify a refusal to deal.
31. Telstra might claim that it will be incentivised to offer access to its monopoly assets in view of the prospect of those assets otherwise being replicated by either Optus or Vodafone, who might otherwise build their own mobile network in these areas. I think this is also implausible, since the Telstra monopoly extends to those areas where neither Optus nor Vodafone have been able to build for many years, despite both firms sustaining a significant competitive disadvantage (to Telstra) as a result. I further understand that some of the areas could not even be covered by Telstra without significant Government subsidy. More importantly, Telstra's own conduct, which I understand involves restricting wholesale access to a footprint which represents around 14% of the landmass (compared to its own retail footprint, which covers over 31%), suggests that it does not feel obliged to volunteer access to any significant portion of its monopoly network because it would otherwise be overbuilt by either Vodafone or Optus.
32. This leads me to conclude that the ACCC should start with the assumption that Telstra is very unlikely ever to have a unilateral incentive to offer domestic roaming on reasonable terms over the network covering an area of 1.4km² in which it holds an enduring network monopoly. The Hutchison agreement of 1999, which the ACCC considered in 2004, is not a reliable basis on which to conclude otherwise. Any commercial claims advanced by Telstra during the current

enquiry should, on this basis, also be treated with an appropriate degree of scepticism by the ACCC.

Telstra's and Optus' incentives to supply in duopolistic areas

33. I turn now to consider the position in those areas where Telstra enjoys not a monopoly, but a duopoly, most often with Optus and sometimes with Vodafone. As noted earlier, these areas represent a much larger proportion of the population than the monopoly area (almost 3% rather than 1%), but a smaller proportion of the landmass (400,000 km² rather than 1.4 million km²). Once again, the literature on the incentives of firms to supply under duopolistic conditions is quite extensive, and again much depends upon the precise conditions that prevail. The key differences are:

- a. That the vertically integrated firm must now anticipate what the rival network might do when considering its own actions.
- b. That there is now some degree of competition between the network owners in the downstream market, such that there may be fewer rents to protect or lose from additional entry.
- c. Vodafone might have a better prospect (relative to the monopoly areas) of building its own network in some of the areas where Optus has already been able to do so.

34. Taken together, these factors are likely to weaken a network owner's unilateral incentives to withhold supply within the duopoly areas (although they may still withhold in the monopoly areas) and to make it more likely that an access seeker will be able to obtain domestic roaming services on reasonable terms from one or other of the firms. But whether they can in fact do so depends on whether the network owners can co-ordinate their conduct to withhold supply. Absent such conditions, it is generally expected that one or other of the network owners would offer wholesale access to capture wholesale revenues which it might otherwise lose to the other. The incentive to deal is stronger than in the monopoly case because the firm gaining the wholesale sales will only lose a portion of the corresponding retail sales - assuming the access seeker will win sales equally from both network operators. Thus, the more a firm expects the access seeker to win sales from its rival rather than from itself, the more likely it is to offer access¹². Conversely, the firm who fails to obtain the wholesale sales will lose the entire margin, both wholesale and

¹² These calculations are more complex if a network owners also thinks that, by providing wholesale access, it can influence which customers the access seeker might target. It will obviously seek to direct sales away from its own customers and towards those of the rival network operator.

retail, on those customers it loses. There is now no compensating wholesale margin to offset these losses, as there is for the other firm or for a monopolist.

35. The conditions under which tacit co-ordination might be sustained, and supply withheld, are also complex. Firms clearly need a mutual incentive to refuse to deal, such that both believe they would be better off under the existing duopoly arrangements than by allowing another firm into the downstream market. A degree of symmetry in market position and cost structure of the firms often allows for such an alignment of interests. Frequent interactions between the firms, as occurs in most mobile markets, is also likely to assist. Telstra and Optus have been involved in various mobile wholesale access discussions with Vodafone and others since 2004, and I note from public statements that they appear to be taking similar positions in relation to the matters being considered by the current enquiry.
36. Firms would also need a 'focal point' on which to co-ordinate and which each could monitor to ensure that the other was adhering to the agreement. In this case, it would be a refusal to offer wholesale roaming services on terms that might be acceptable to the access seeker. This is relatively easy to monitor, since it is clear to everyone when a domestic roaming agreement is concluded, and with whom it is concluded. Co-ordination on the precise commercial terms on which roaming might be offered is more difficult, since the terms of such agreements are invariably commercially confidential between the parties (which is why regulators will often impose obligations to supply roaming and other wholesale services in oligopolistic markets without feeling the need to specify the precise terms).
37. Not only do firms need to be able to monitor any deviation from the tacit agreement – which would in this case involve one or other of the firms supplying domestic roaming to Vodafone – but they need to be able to punish such deviation in order to deter it. This is sometimes difficult to do in the wholesale market, since once a domestic roaming agreement is signed it is difficult for other firms to recapture those wholesale sales until the agreement has expired. However, it may be possible to retaliate by targeting the deviating firm in the retail market, either directly or by targeting sales made by the roaming firm. Being able to do so requires that the firm has sufficient excess network capacity to recapture sales in this way.
38. I do not think it is necessary for the purposes of this report, nor for the ACCC for this i
39. nquiry, to express a firm view on whether conditions exist for Telstra and Optus (or Telstra and Vodafone) to tacitly co-ordinate in relation to wholesale roaming services or whether they have in fact done so in the past. In 2004, the ACCC concluded:

...the Commission considered whether competition between two suppliers, plus the threat of entry by a third nationwide supplier (Optus) and threat of entry by a fourth supplier in particular capital cities (Hutchison) would be sufficient to constrain market behaviour to competitive outcomes. The Commission has previously expressed the view that the retail mobile services market is not subject to effective competition despite there being four network operators. This would tend to suggest that the GSM inter-carrier roaming services market is unlikely to be subject to effective competition. Moreover, it is worth noting that, in some rural and remote areas, there may be only one possible supplier of inter-carrier roaming services.

That said, there appear to be few concerns, if any, from those seeking GSM roaming services. Both Vodafone and Hutchison appear to be satisfied with the agreements they have negotiated to roam on to the networks of other¹³

40. My reading of this is that the ACCC suspected that conditions could exist for tacit co-ordination in the GSM domestic roaming market, but that Vodafone and Hutchison had been able to secure agreements on terms with which they seemed content. More importantly, I note that since then Optus has agreed to supply Vodafone in some areas where it competes with Telstra, but that there remains a large portion of the Optus network, representing about 2.5% of both the landmass and the population, to which Optus has withheld supply and to which Vodafone does not therefore enjoy access. In the absence of alternative explanations for Optus' conduct, which I have not seen, this ability to withhold supply in areas where it might otherwise be expected to compete with Telstra may indicate that Optus is able to tacitly co-ordinate with Telstra.
41. In saying this, I am also aware that both Telstra and Optus have agreed to supply wholesale access to a number of MVNOs, with my understanding being that Optus has done so across its entire network footprint (i.e. including duopoly areas) and that Telstra typically provides access to a footprint which fractionally exceeds that of Optus but which still falls far short of Telstra's own retail footprint. I do not think the fact that Telstra and Optus might offer wholesale access to MVNOs within the duopoly area means that we should infer that they would also offer access to domestic roaming to Vodafone. The pay offs and incentives faced by the firms will be different, as may the ability to enforce any agreement. I would therefore attach much greater weight to Telstra and Optus' conduct in relation to supply of domestic roaming than to any inferences that might be drawn from their conduct in relation to supply to MVNOs.
42. The possibility of firm behaviour being influenced by the regulatory process is not confined to access providers such as Telstra, and can influence the conduct of access seekers like Vodafone, who may believe or hope that the absence of any agreement may persuade the regulator to intervene and to impose terms which are more favourable to it than those currently on offer. That is why I would be inclined to attach greater weight to a firm's conduct before it was clear that the ACCC intended to undertake an enquiry into the domestic roaming market. My understanding is

¹³ ACCC, 2004 p.30

that Vodafone was neither made nor did it reject offers from either Telstra or Optus during this period, save for the limited roaming agreement with Optus, which it accepted.

43. I understand that Telstra has claimed that Vodafone is seeking to free-ride on Telstra's network and may argue that Vodafone has or will delay the deployment of its own network in the hope that this will encourage the ACCC to intervene. Again, I might attach greater weight to Vodafone's conduct prior to the announcement of the current inquiry, but it seems to me unlikely that Vodafone would do this. First, it is obvious but important to note that the simple fact that Optus has been able to deploy its network in some areas where Vodafone has not does not mean that Vodafone could do likewise. Some areas will only sustain two networks, just as some will only sustain one. Optus' presence may therefore serve to prevent further entry by Vodafone. Second, Optus (and Telstra) may enjoy strategic advantages which have allowed them to deploy network in areas where Vodafone or another entrant could not. This might include ownership of fixed network assets, including transmission and backhaul facilities, which Vodafone might otherwise have to purchase from third parties. These assets are likely to have a significant influence on the economics of deploying network in the geographic areas we are concerned with here. Third, if Vodafone could have expanded its coverage and improved its competitive position in the past, it would be odd for it not to have done so. Vodafone has been losing significant market share in recent years and I see no reason why Vodafone would engineer a weakening of its competitive position in the hope or expectation that the ACCC would ride to its rescue.

44. I have thus far examined the incentives which Telstra and Optus might face as monopolists or duopolists in different geographic regions of Australia. I have argued that Telstra will have strong unilateral incentives (and ability) to withhold the supply of domestic roaming services in those areas where it enjoys a monopoly. Its conduct, in withholding access to an area representing about 17% of the landmass of the country, would seem to confirm this. I have also argued that Optus and Telstra would have incentives to jointly refuse to supply Vodafone in those areas where they occupy a duopoly position and that, again, Optus' conduct, in withholding access to an area representing 2.5% of the landmass in these areas, would suggest that they have had the ability to do so. I have considered each 'area' as if it is a standalone market and there is no interaction between them. This is, of course, an abstraction from reality and it is also necessary to consider how these incentives might interact if, for example, the ACCC were to oblige Telstra to supply domestic roaming services in the monopoly area but not in the duopoly area. I consider this issue in the next section.

The interplay between monopoly and duopoly areas

45. I think the ACCC has compelling grounds to conclude:

- a. That the supply of domestic roaming in monopoly areas will not be forthcoming absent a declaration for the reasons explained in the previous section *and*
- b. That in order to realise the consumer benefits from the supply of domestic roaming in monopoly areas, there must be supply of domestic roaming in duopoly areas for the reasons explained below *and*
- c. That if domestic roaming in monopoly areas is declared, the supply of domestic roaming in duopoly areas is even less likely to occur on voluntary terms than if it is not, again for the reasons explained below *and*
- d. That if the ACCC decides to declare domestic roaming in the monopoly areas, it would also need to declare domestic roaming in the duopoly areas if the intervention is to achieve its intended effect.

46. My reasoning starts from the assumption that the supply of roaming in the monopoly areas will be complemented by the supply of roaming in the duopoly areas. This is partly because the examination of any coverage map reveals that there are few clear or clean geographic boundaries between the two 'areas', such they are not really areas at all. This means that the supply of one without the supply of the other would produce a bewildering experience for Vodafone's customers (although not for Optus') as they experienced constant interruptions in service even when travelling within a very localised area. It also means that Vodafone would be unable to claim that it was offering what consumers would regard as reliable 'coverage' in many parts of Australia, since that would not be the experience consumers obtained. If Vodafone is unable to market the coverage which domestic roaming is supposed to enable, then it is very unlikely to be able to unlock the competitive benefits which the ACCC might otherwise anticipate, even if Optus were now able to compete effectively

47. But even if that were not the case and clean boundaries could be drawn, I am not sure any Australian consumer will prefer a service in which they can be confident of obtaining coverage in the metropolitan areas, lose it in the 400km² where Optus and Telstra hold a duopoly, and then regain it as they travel to the most remote areas of the country. Given the importance of the 'spillover' effects for urban consumers to which I referred to earlier, a domestic roaming service

which confined itself to offering coverage in the most remote areas would yield modest competitive benefits, largely confined to the 1% of the population living in those areas.

48. It may be argued that, even if this is right, a declaration of a roaming service in the monopoly area is sufficient, since competition between the network duopolists, Telstra and Optus, will ensure supply on reasonable terms in the duopoly area. I have already noted that Vodafone appears to have been unable to secure access to much of the duopoly area to date, so the question arises as to whether its prospects of doing so would improve or worsen if Telstra were obliged by the ACCC to supply in the monopoly area.
49. My conclusion is that the prospects of Vodafone obtaining domestic roaming on reasonable terms from either Telstra or Optus in these areas will worsen, perhaps significantly. That is because, if the two areas are complementary and Telstra is obliged to supply in the monopoly area, the only way it can now deny access to the monopoly area (or diminish the value of such access) is to deny access in the duopoly area. Telstra will therefore have unilateral incentives (which it did not previously have) to refuse to supply in those areas where it faces competition from Optus.
50. The stakes are higher for Optus too. If it supplies Vodafone in the duopoly area, it knows that this will enable Vodafone to fully exploit the competitive benefits conferred by the declaration of the monopoly area. If it refuses to supply, these benefits will still be enjoyed by Optus (who will be able to take advantage of the declaration to expand its own footprint to include the 1.4 million km² it does not cover). Optus can therefore expand the scope of the area over which it enjoys a duopoly with Telstra, whilst restricting Vodafone's ability to do the same. It seems to me that, as a result, both firms would have strong unilateral incentives to refuse to supply Vodafone.
51. If this is right, then even if one or other of Optus and Telstra would supply Vodafone in the absence of a declaration (which the evidence I have seen does not support), they are very unlikely to do so if access to the Telstra monopoly area is required by the ACCC. Thus, to realise the full competitive benefits of any declaration on domestic roaming, I conclude that the ACCC would need to declare a service in both those areas where Telstra holds a monopoly *and* in those areas where both Telstra and Optus currently provide coverage.

52. I now turn to the second question.

Question 2: How should the ACCC assess the competitive (and hence consumer) benefits from declaring domestic roaming?

53. The competitive benefits which might arise if the ACCC were to declare domestic roaming are the same as the consumer harm which arises in the absence of such a declaration. One is the factual case and the other the counterfactual. The ACCC has already outlined the framework under which to assess these benefits, and the purpose of this section is to paint in some of the detail. I assume, in doing so, that the ACCC wishes to assess the benefits that arise from a declaration of a roaming service in both the monopoly and duopoly areas, as I proposed in the previous section.
54. First, we should assess the benefits of greater competition in the downstream retail market, being competition that is enabled by a declaration of roaming. This consists, first, of ‘direct’ benefits to those consumers in monopoly areas who were previously captive customers of Telstra, and of benefits to consumers in duopoly areas who might now expect to have a choice of services offered by Vodafone, as well as those offered by Optus and Telstra. Second, it consists of ‘spillover’ benefits for consumers in those oligopoly areas where there is no change in the number of networks offering coverage. In this case, the benefit arises not from the addition of new competitors, but from improvement in the ‘quality’ of the products which both Vodafone and Optus are now able to offer. Specifically, both firms will now be able to offer a service that is available across the same footprint as that currently offered by Telstra. Consumers who value extensive network coverage will therefore now have the option of purchasing services from all three providers, whereas previously they would have been able to buy only from Telstra. These benefits may be compounded to the extent that Vodafone and Optus were also able to include access to the Telstra footprint as part of their respective wholesale offers to MVNOs. This might in turn induce Telstra to expand the wholesale footprint that it currently makes available to MVNOs, allowing them in turn to offer greater coverage to their retail customers¹⁴.
55. It is possible that a declaration of domestic roaming may also promote greater network competition in the upstream market. This would be the case if, for example, Vodafone were able to use domestic roaming services to grow its retail market share and then extend its own coverage in areas where retail revenues would otherwise be too low – a version of the ‘ladder of investment’ theory much loved by telecoms regulators in Europe. The ACCC itself makes this point¹⁵, although I have no evidence from Vodafone or Optus that would allow me to assess the

¹⁴ I ignore any benefits that might arise from Vodafone or Optus being able to resell their expanded coverage not to MVNOs but to foreign operators who purchase inbound international roaming services (and who might be expected also to value greater coverage). This is for two reasons (a) I understand that firms obtaining domestic roaming services are not generally able to use these services as part of their inbound international roaming offer, for both technical and commercial reasons and (b) any benefits that would arise if they could would be enjoyed by foreign consumers rather than Australians.

¹⁵ Domestic Roaming Declaration Enquiry, Discussion Paper, ACCC 2016 (ACCC 2016), p.34

prospects or magnitude of such investments. I understand this point is being addressed by another expert and I therefore do not consider it further in what follows.

Implications for quality competition

56. The magnitude of the consumer benefits that might be expected to arise is uncertain and difficult to quantify. We can start by identifying the number of consumers that might benefit in each case (using information provided to me by Vodafone and referred to earlier), as follows:

Benefit	Potential beneficiaries (as % of population)
Choice of another provider of retail services (Vodafone, Optus or both), rather than Telstra being the only credible provider	~ 1%
Addition of Vodafone as a credible provider of retail services, in addition to the choice already provided by Telstra and Optus, and addition of Optus as a credible provider to consumers in this area who also value coverage in the Telstra monopoly areas	~2.6%
Addition of Vodafone and Optus as credible providers of retail services to those consumers who already have a choice of three providers but who also value coverage	Some proportion of 95.6%

57. The obvious point is that as the number of potential beneficiaries increases, the magnitude of the benefits from competition for any individual is likely to diminish:

- a. A consumer who currently has no choice of provider other than Telstra is likely to see large benefits from the introduction of any form of competition in the retail market. The potential benefits are familiar – the threat of losing retail customers is likely lead to more attentive customer service, better offers (such as targeted discounts on handsets), more advertising and better information, and potentially more investment on Telstra’s part in its retail outlets in those regions where it did not previously face competition. New competitors, whether Vodafone or Optus, may also offer customers new products and services, or other choices which are not currently available from Telstra. The ACCC would be in a better position than I to determine exactly what these might be.

- b. A consumer who already has a choice of either Telstra or Optus would also benefit, but less so. The addition of Vodafone as a third retail service provider will provide further competitive discipline for the existing operators, although the effect and consequent benefits are not likely to be as large as for those consumers who obtain a choice of service provider for the first time. In addition, there may be a group of consumers who may appear to currently have a choice between Telstra and Optus, but who in fact do not regard Optus as a credible alternative whilst it is unable to offer coverage in those areas where Telstra currently enjoys a coverage monopoly. My understanding that Telstra's market share in areas where Optus also has coverage can still be 60-80%. If that is right, then 60-80% of the 2.6% of the population in these areas (or between 1.5 and 2% of the population) would gain a meaningful choice of provider for the first time.
- c. A consumer who already has a choice of Telstra, Optus and Vodafone will benefit to the extent that they value the option of being able to obtain service outside of the area where Vodafone or Optus currently operates its own network. I discussed in the previous section why I would expect consumers to value networks which offer the greatest overall coverage, rather than their selecting a provider on the basis of whether coverage is offered in one area as opposed to another. I therefore make no distinction here for the fact that Optus already offers a larger footprint than Vodafone, since the important point for these consumers is that Optus still offers very substantially less coverage than Telstra. Domestic roaming would allow both Vodafone and Optus to match Telstra's coverage and to be a credible option for this group of consumers. They represent some proportion of the 95.6% of the population in this category. I discuss this group at more length in the next section.

Implications for pricing

58. So far I have discussed the benefits of domestic roaming in terms of the additional choice and improvements in service quality that might arise. I have also assumed that switching between mobile operators is relatively costless, such that consumers with different preferences will generally be able to find the service provider who best meets their needs. I turn now to consider the important question of price.
59. I understand that mobile service prices in Australia are set on a nationally averaged basis, at least at the headline level, as they are in most markets around the world. Operators do frequently target 'below the line' discounts in an attempt to retain or acquire particular consumers, or consumers in a particular area, and I would expect such discounts to arise in the Australian market. Telstra would, I think, be more likely to target such discounts at consumers who already face a choice of

service providers, rather than those in regional Australia where Telstra retains a monopoly or duopoly position.

60. Telstra's headline prices will, however, be constrained by competition from Optus and Vodafone, meaning that consumers in regional Australia obtain some protection against exploitative or excessive pricing, even if Telstra is their monopoly supplier. These competitive constraints are most significant in areas where Telstra faces competition from both Optus and Vodafone and somewhat less so when Telstra faces competition only from Optus. Even in the former case, however, this represents over 95% of the population and likely a similar or greater proportion of Telstra's revenues and profits.
61. This, however, is only part of the story because we also need to ask ourselves how effective the competitive constraints provided by Vodafone and Optus might be. This depends, for our purposes, on the number of consumers in competitive areas who value coverage in regional Australia (I recognise that Vodafone and Optus may represent weak competitive constraints to Telstra for reasons other than coverage but, provided these other factors are unaffected by a declaration of roaming, they are present in both the factual and counterfactual and can be ignored). Simply put, if the proportion of the 95% of the population in 'competitive' areas that value regional coverage is large (or such customers are disproportionately valuable or profitable), then Telstra will in fact face relatively weak competitive constraints in those areas where it faces retail competitors, as well as in those areas where it does not. This means that Telstra will enjoy a degree of market power and will be able to sustain prices substantially above the competitive level without the fear that many of its customers will switch to Vodafone or Optus. Those who do not value coverage very highly might switch, but if they represent a small proportion of the overall population, then it will still be profitable for Telstra to sustain high prices across the market as a whole.
62. The converse also applies: if the proportion of consumers in competitive areas who value coverage is small, or if those consumers are relatively unprofitable, then Vodafone and Optus will be much more effective competitors for a greater proportion of Telstra's profits and customers. Telstra will then find it difficult to sustain prices significantly above competitive levels without losing a significant proportion of its customers to its rivals.
63. The question which therefore arises from all this is 'how much do the majority of Australian consumers value coverage?'
64. Although difficult to answer definitively, I think it is possible for the ACCC to infer an answer to this question. First, I understand that Telstra has made, and intends to continue to make,

significant investments in its network, notwithstanding that some proportion of the coverage which Telstra enjoys today is the result of public subsidies provided by the Australian Government under various schemes in the past. It is clear that most, if not all, of these investments would not be viable if assessed only on the basis of the benefits (and hence willingness to pay) of the 1-3% of the population who would directly benefit from the availability of mobile services in the areas where they live and work. A significant economic contribution to the costs of coverage must, therefore, be anticipated from the rest of the population, these being the 'spillover' benefits of coverage which Telstra will expect to monetise. To make this assumption, Telstra must believe that a significant proportion of consumers in competitive areas value coverage, and/or that they value it a lot.

65. Second, I understand that Telstra invests significant sums in advertising the superiority of its network coverage, and that it does this on a national basis to appeal to consumers throughout Australia (and not simply those who live in the areas where that coverage is provided). Again, it would make no sense to do this unless Telstra believed that this was dimension of competition which mattered to consumers. In 2004, the ACCC noted that some carriers had argued that coverage was no longer a source of differentiation¹⁶. The ACCC did not accept that view then and it appears it does not do so now¹⁷. It is correct not to do so.
66. I would also expect Telstra to invest significant resources in the current enquiry, and to argue that any declaration of domestic roaming would hinder its ability to invest in regional coverage and to compete more generally. It would be odd expend such time and energy to protect a monopoly over 1% of the market. Moreover, to claim that any potential harms from regulatory intervention by the ACCC would be large, Telstra must assume that the existing benefits from coverage are also large. I therefore infer from what I have seen of Telstra's conduct in this enquiry that it considers coverage to represent an important source of competitive advantage, and one which a large proportion of consumers throughout Australia value highly.
67. Third, I would expect Telstra's actions to translate into prices and financial returns. To repeat, if a large proportion of the 95% in competitive areas value coverage in regional Australia, Vodafone and Optus will provide relatively weak pricing constraints on Telstra, and Telstra will be able to sustain nationally averaged prices that are significantly above the competitive level. I would expect this to be reflected in sustained and high levels of profitability.
68. In a competitive market, Telstra's higher prices would reflect its higher costs rather than its market power and would not translate into high profits. Thus, the extent of any consumer harm

¹⁶ ACCC 2004, p.35

¹⁷ ACCC 2016, p.13

(and hence the benefit from a declaration which promotes more effective retail competition) is best assessed by reference to the extent to which Telstra is able to sustain supernormal profits over an extended period. I have not been asked to examine data which would allow me to answer this question, but it appears that Telstra's free cash flows may suggest that it is earning significant supernormal profits, and that a substantial proportion of these are likely to be attributable to its mobile operations.

69. If this is right, then a significant number of Australian consumers are paying above the competitive price for the mobile services that they receive from Telstra, despite the presence of competing networks. Consumers in metropolitan areas are paying too much because they are unable to switch to an alternative provider who adequately meets their needs. Consumers in regional Australia and then paying too much precisely because the consumers in metropolitan areas are paying too much and national averaging of prices does not protect them.

70. I have been careful not to claim that all consumers are paying above the competitive price. In the face of a coverage disadvantage which they cannot overcome, I would expect Vodafone and Optus (and most MVNOs) to offer lower prices than Telstra. Consumers who do not value coverage as much should be able to get a competitive deal. Again, if this group of consumers were very valuable or large, I would expect Telstra to seek to target them as well, perhaps by offering a tariff with more restricted coverage (only 14% landmass coverage) but at a lower price. It seems to me that Telstra currently does precisely this through its arrangements with MVNOs, who typically offer access to a restricted Telstra network footprint, but generally at a lower price than that available on the main Telstra brand. This is a sensible, profit maximising strategy by a firm that has invested heavily in associating its brand with a premium product and does not wish to risk damaging it by offering a poorer quality product under the same brand. I therefore assume that the Telstra MVNOs will compete directly with Vodafone and Optus (including MVNOs hosted by those network owners) for consumers who may attach less value to coverage and more to price.

71. There will then be another group of 'captive' metropolitan consumers who would not switch to Vodafone or Optus for any reasonable discount because they value coverage so highly. I have seen no data, but my intuition is that this group is likely to be overly represented by high value, high spending users who travel more than the average. Telstra will therefore be very keen to retain them, but will not currently face any risk that they would switch away. These consumers are therefore likely to be paying prices substantially above the competitive level and substantially above Telstra's costs of serving them. They are likely to be unambiguously better off if Vodafone and Optus were also able to offer a service which would appeal to them.

72. Finally, there will be a group of consumers for whom coverage and cost are capable of being traded off one against the other. If these represent a significant proportion of the total, then Vodafone and Optus will provide some form of competitive constraint upon Telstra in competitive areas (even if neither is able to match Telstra's coverage) since these consumers would still switch away from Telstra if it sought to raise prices significantly above the competitive level.
73. I think this group of consumers is potentially significant, but its characteristics and options might also change over time. For example, if Telstra's coverage advantage were to increase over time (or were to appear to do so), it may be that Vodafone's and Optus' lower prices could no longer offset Telstra's coverage advantage. I am advised by Vodafone that Telstra still appears to be expanding both its 3G and particularly its 4G coverage in regional Australia, although of course Vodafone and Optus are doing so too. Whether the resulting gap in coverage is perceived by consumers as being wider or narrower than before will then no doubt depend partly upon the facts and partly upon the way and extent to which Telstra advertises its network coverage advantage. Similarly, the extent to which Vodafone and Optus can then offset this perceived disadvantage through lower prices will depend on the extent to which they can do so and still recover their costs, at least in the long run. Again, it is possible that both firms have reached a point where they cannot lower prices any further¹⁸. If that were the case, then a proportion of consumers in this category would become 'captive' to Telstra, having previously not been so. As the gaps widen, so the proportion of consumers who might move could be expected to increase. I have no data to assess these factors, other than to note, as the ACCC does, that Telstra's aggregate retail market share for both handsets and tablets has risen significantly over the past 5 years¹⁹. At the least, this suggests that the proportion of consumers who are unable to trade off coverage for price may be increasing rather than decreasing.
74. There is no easy or precise way to identify how many consumers might fall into each of the categories presented above and the categories themselves are a necessary simplification of the many factors which consumers consider when choosing between mobile service providers. However, it may be possible to make some inferences about the relative size of each group by examining the distribution of customers amongst the networks today. My understanding of the position is as follows:

¹⁸ An examination of Vodafone's and Optus' profitability over time might provide some insights here, although I have not done this.

¹⁹ ACCC 2016, p. 22-23

- a. The total population in the oligopoly or ‘competitive’ areas who might conceivably benefit from more effective competition from Vodafone and Optus:

95.6% of the population

- b. The proportion of that population who do not currently subscribe to Telstra and who may therefore either (a) not value the coverage benefit which Telstra is able to offer at any price or (b) are willing to trade off coverage for price (and choose lower prices rather than more coverage at the prices which Telstra currently charges):

60-70%, likely less by revenue

- c. The proportion of the population in competitive areas who will not switch away from Telstra, even if offered significant pricing discounts, and who are therefore currently ‘captive’ to Telstra:

30-40% or 28-38% of the total Australian population, likely more by revenue

75. If this is right, Telstra would appear to have a ‘captive’ group of customers for whom it is currently the only credible provider who might represent about a third of the entire population and likely more of the revenues and profits. Importantly, the overwhelming majority of these consumers do not reside in areas where Telstra holds a monopoly network position, but in areas where there appears to be network ‘competition’. Despite this, it appears that they are currently paying prices that are substantially above the competitive level. Thus, we might reasonably expect that at least a third of the Australian population would benefit from a domestic roaming declaration, even if the rest of the population are willing and able to trade off coverage for lower prices, or attach no value to Telstra’s coverage.

Could prices increase?

76. The ACCC’s Discussion Paper suggests that, notwithstanding the above, it is possible that a declaration of domestic roaming ‘*may increase the retail prices of mobile roaming services overall*’²⁰. This appears to be based on two assumptions:

²¹ The investment incentive issue does not arise in relation to Optus or Vodafone if we assume that anywhere Optus or Vodafone might build in future would already have been covered by Telstra and that those Telstra sites would fall within the scope of the declaration from the outset. In such cases, coverage will already be available

- a. That Vodafone and Optus would face higher costs as a result of buying domestic roaming services from Telstra and that these higher costs would be passed to all consumers, even if profits were normal and the retail market competitive and
- b. That these higher prices would offset other benefits of competition.

77. I think both assumption are wrong, and explain why in what follows.

78. The first and obvious point is that it does not follow, as a general principle, that the long term interests of consumers will necessarily be poorly served if they pay a higher price to obtain a higher quality product. For example, there is likely to be a group of consumers who currently obtain mobile services from Vodafone or Optus because they cannot afford to pay the prices demanded by Telstra, but who would switch to a higher price tariff if it offered superior coverage but was cheaper than the equivalent service offered by Telstra today. These consumers, who represent something less than 60% of the population, would end up paying more than they currently do, but would still be better off.

79. Second, there are then a group of consumers, representing approximately one third of the population identified above, who are currently paying prices to Telstra which are above the competitive level. Provided retail competition from Vodafone and Optus is sufficient to align prices more closely with costs, then prices for this group will fall. Again, the prices offered by Vodafone and Optus to this group of consumers may be higher than the prices Vodafone and Optus offer today, but they will still be lower than the prices which these consumers currently pay to Telstra. Telstra will either have to lower its prices in response to competition for this group, or they will switch to obtain the lower price offers from Vodafone and Optus.

80. There is then a third group, being consumers who do not value additional coverage sufficiently to pay even a competitive price for it. I do not see why the prices paid by this group should rise either. Competition for this group of consumers, who also represent something less than 60% of the population, is already strong and likely to remain so. Telstra already competes for these consumers through its MVNO arrangements, which support services with more limited coverage but lower prices under a non-Telstra brand. Vodafone and Telstra do the same, both using their own brands and those of MVNOs. In a competitive market, consumers are not generally obliged to purchase services which they do not value and providers are not generally able to impose their preferences on those consumers. Of course, firms cannot perfectly discriminate amongst

to the other downstream rival (whether Vodafone or Optus) on Telstra's network, and so the prospect of downstream exclusivity does not arise.

consumers and consumers may themselves not always be able to select the right tariff or provider to best meet their needs, but these considerations apply whether or not domestic roaming is declared by the ACCC (i.e. the position is the same in both the factual and counterfactual). To the extent, therefore, that consumers choose tariffs that result in higher prices, it ought to be because they obtain value from doing so and are made better off as a result.

81. If anything, it is more likely that the prices paid by those who do not value coverage will fall than rise as a result of the declaration. The reason is that the price of services that limit coverage to the oligopoly area are likely to be set by reference to the price of services which offer coverage across the entire Telstra footprint. Since the price of a latter can be expected to fall as a result of the declaration, there will also be downward pressure on the former (assuming consumer perceptions of the quality differential between the two types of services remains unchanged). The extent to which services in the oligopoly area can be further discounted will then depend upon the competitive position pre-declaration, and the extent to which prices already align with costs.
82. The ACCC's assumption that prices might rise on average or overall would only hold, in my view, if the declaration were to create a new group of 'captive' consumers who were forced to buy services which offered full coverage but who attached little or no value to such coverage. Such consumers would be worse off. However, even if this did happen, the question of whether consumers as a whole would be worse off would depend on the relative size of this group as compared to those who do value coverage and who would be unambiguously better off. As a general matter, I think it would be very odd (and wrong) for the ACCC to suppose that a measure which increases retail competition would leave even this category of consumers worse off than before. If firms in competitive markets could exploit consumers in this way, then mobile operators would force everyone to buy a very large bundle of data at a high price, even if most consumers did not need or value it. Or operators would force consumers to buy additional services like international roaming services even when they did not use or want them. But that simply does not happen in competitive mobile markets in my experience. Similarly, if Telstra could force consumers in metropolitan areas to pay for coverage which they did not want (as opposed to paying too much for coverage which they do want) then it would already be doing so and would be unlikely to support MVNOs who offer a service with reduced coverage.
83. I therefore find it very difficult to envisage any circumstances under which average mobile prices paid would rise as a result of the declaration, other than in response to changes in consumer preferences which meant that more consumers valued coverage more than before or that a larger proportion of consumers could now afford to buy greater coverage. In either and both cases, those consumers who chose higher price tariffs would be doing so because it made them unambiguously

better off. Of course, some individual consumers may find themselves on the wrong tariff or operator for their needs, but switching costs are relatively low in mobile and, to the extent that is a concern, it applies to both the factual (i.e. before the declaration) and the counterfactual (i.e. after) cases. Only if the ACCC thought that the declaration would allow all three operators to somehow collectively agree to withhold products which would otherwise better suit those who did not value coverage would the ACCC's assumption hold. But if that is the case, then the effect of the ACCC's declaration would be to reduce rather than increase retail competition and to facilitate tacit co-ordination amongst the three firms. That seems to me so far fetched as not to merit further consideration.

Implications for service definition

84. The competitive benefits that might be derived from declaring domestic roaming will depend not only on the geographic scope of the service, but on the technological scope, namely whether the services is restricted to 2G or 3G or 4G or some combination of those, or is to be provided indiscriminately across all current and prospective technologies.
85. I have already explained how, in 2004, the ACCC distinguished between CDMA and GSM technologies, but that it did so because this allowed it to distinguish between differing conditions of supply. CDMA was available under conditions of monopoly, whilst GSM appeared to have more competitive prospects. Today, this distinction is no longer relevant, and the differing conditions of supply are instead likely to be defined by reference to the geographic area in which the service is to be provided.
86. I have not been asked to consider how a declaration of domestic roaming might affect the network investment incentives of either the access provider or the access seeker, but restricting the technological (or geographical) scope of the declaration is generally proposed as a measure to improve the investment incentives of the network owner. The claim is that the network owner – in this case Telstra - requires some period of exclusivity in which only it can obtain the benefit of new network investments in the downstream market if it is to be induced to make those investments at all. Thus, Telstra would not invest in additional coverage sites in rural Australia unless it were able to withhold access to its downstream rivals, or would not invest in network upgrades to 4G or 5G in existing sites unless it was similarly able to enjoy a period of exclusivity.
87. In the present case, and for the reasons already outlined, it seems to me likely that technology upgrades, which I assume would occur across a substantial part of the footprint, are likely to be of

greater significance than the further geographic expansion of the Telstra network footprint²¹. I understand that Telstra is undertaking some small additional coverage investments, representing around 500 additional sites, but that it is doing so only with financial assistance from the Australian Government. I assume these investments would not be enough for Telstra to claim materially greater superiority in coverage over and above the footprint which it has already deployed and to which its rivals would have access under the declaration. If that is right, then the addition of new sites would be likely to have quite small competitive benefits from Telstra (which may explain why public subsidy is required to persuade it to make such investments at all).

88. This is not likely to be the case for network upgrades, which Telstra would be likely to implement across both its existing sites and any new additions. These will directly affect a much larger number of consumers, being the 3.6% of the population in the monopoly and duopoly areas (rather than the tiny numbers of consumers who are likely to benefit directly from the addition of new coverage sites). They will also produce much larger ‘spillover’ benefits for the remaining 95% of the population living in the competitive areas, all of whom would benefit from the better performance associated with the new technology. In addition to better quality (higher speeds or lower latency) and new services (VOLTE, LTE-UE), new mobile technologies are often deployed to increase capacity and alleviate congestion. I would not, however, expect capacity expansion to be a major driver for upgrades of the Telstra network in regional Australia, given that much of this network is likely to remain underutilised for the foreseeable future. I am advised by Vodafone that operators report their technology deployment to the Radio Frequency National Site Archive and that Telstra reported 4G population coverage of around 96% in March 2016 (up from just under 80% in 2015). Telstra’s reported 3G population coverage at the same date was 99.3%, but the difference in terms of landmass coverage was clearly much more substantial and I understand from Vodafone that the Telstra monopoly area may include little, or any, 4G coverage today. Assuming that Telstra could be expected to deploy 4G wherever it has 3G and that both technologies require the same number of sites, then Telstra still needs to upgrade over 2000 sites to 4G in regional Australia (although it may have done some of these since March). I also understand from Vodafone that Telstra may now have a smaller footprint for 2G GSM than it has for 3G coverage and that Telstra may be considering the closure of its 2G GSM network.

89. The size of the consumer benefits from a particular technological upgrade will obviously depend on whether it applies to the entire footprint or some portion of it, but will also depend on the

²¹ The investment incentive issue does not arise in relation to Optus or Vodafone if we assume that anywhere Optus or Vodafone might build in future would already have been covered by Telstra and that those Telstra sites would fall within the scope of the declaration from the outset. In such cases, coverage will already be available to the other downstream rival (whether Vodafone or Optus) on Telstra’s network, and so the prospect of downstream exclusivity does not arise.

extent to which different groups of consumers value the benefits that the technology offers. Some consumers will attach great value to obtaining coverage of a particular kind (for example, they will not regard access to 3G as being an acceptable substitute for 4G), or to support a particular set of services, whilst others will be content to use a substitute technology in remote areas, provided they can still obtain some kind of connection to the network.

90. Any assessment of the technological scope of the declaration needs to take these factors into account. The key considerations seem to me as follows:
- a. Investment incentives will matter more if the technology in question promises to deliver large consumer benefits or a failure to invest would result in large consumer losses. This is why investments in upgrades of the existing footprint (which have large spillover effects) are likely to be more important than further expansion of the network footprint (which probably do not)
 - b. If the technology promises large consumer benefits or perceived consumer benefits, then the competitive costs associated with exclusivity are also likely to be large. For example, if consumers in metropolitan or competitive areas value 4G highly and 4G is excluded from the scope of the declaration, then these consumers will remain 'captive' on the Telstra network, as today, even if the declaration enables Vodafone to offer 3G roaming throughout the Telstra footprint. In the extreme, if the new technology were indispensable to a sufficient number of consumers, then excluding it from the scope of the declaration would mean that the declaration would then have no practical effect at all.
 - c. On the other hand, if the technology were to offer small consumer benefits and/or consumers are prepared to trade off access to that technology for access to another (e.g. to rely on 3G rather than 4G) and/or they are prepared to trade off access to that technology for lower prices (e.g. no 4G connectivity, but lower retail prices instead), then the adverse competitive effects of a period of exclusivity may be relatively small. In this case, excluding the technology from the scope of the declaration may not materially affect the competitive benefits, but would also have weaker impact on investment incentives.
 - d. Thus, the likely benefits for investment incentives of excluding new technologies from the scope of the declaration are likely to inversely related to the likely competitive costs of doing so. Allowing exclusivity over things that most consumers do not care much about will not impact competition much, but equally the benefits of having Telstra invest in such technologies will not be very great either.

91. Implicit in the discussion so far is the assumption that Telstra would not make the new network investments in the Telstra monopoly areas, following declaration, in the absence of a period of exclusivity²². I understand that this issue is being addressed by another expert and I am instructed not to consider it further for the purposes of this report. It is sufficient to note that the declaration – or any period of exclusivity - would have little or no effect on the incentives for Telstra to invest in upgrading its network outside the monopoly areas, where it would face competitive pressures to do so from Optus or from Vodafone, or from both.
92. The inverse relationship between investment and competitive costs raises another issue. The case for excluding investments from the scope of the declaration rests on the claim that Telstra requires a period during which it must be able to earn supernormal returns on its investments in doing to be induced to make them. These supernormal returns arise from the exercise of market power, and this occurs in mobile markets which are otherwise regarded as ‘competitive’, as well as under monopoly or duopoly conditions. The difference is that, in competitive markets, any market power is likely to be transitory and rivals will quickly be able to match the first investor, or take other actions which offset the competitive effect of those investments. The aim of the regulator in granting a period of exclusivity is therefore to replicate the ‘competitive’ process rather than mimic a monopoly. Granting a period of exclusivity which goes beyond what we might expect to find under competitive conditions is likely to induce investments which we not otherwise expect to occur. This may result in more coverage, but such investment is unlikely to be economically efficient and it will have been enabled by the exploitation of captive consumers. In my view, to the extent that network coverage is required in Australia beyond the point which consumers would be prepared to fund it under competitive retail conditions, then this is ought to be a matter for the Government and for public subsidy (rather than being a matter which the ACCC should seek to address through this inquiry).
93. I conclude that the exclusion of certain technologies from the scope of the declaration would require careful consideration. The ACCC would need to balance the long term consumer benefits that might be derived from the network investment against the competitive losses that would arise from exclusivity. Large potential benefits for investment are likely to be associated with large competitive and consumer losses. The ACCC ought to seek to replicate the incentives which

²² There is also a potential ‘takings’ claim that Telstra should be accorded a period of exclusivity in relation to investments that it has already made prior to the declaration being made. The argument would be that Telstra had made such investments in the reasonable expectation that it would earn a certain return on them and that an unexpected declaration by the ACCC will mean they do not. This will in turn deter Telstra from investing in further sunk assets in future, since it will worry that the ACCC could act in the same way again. In order to avoid this, the ACCC should therefore ensure that Telstra is allowed to fulfil its original expectations in relation to investments already made. I would be inclined to attach less weight to this line of thinking than to the returns Telstra needs to earn on any future investments, but the point has some merit.

Telstra might face in a competitive but unregulated market, in which case it would expect to obtain first mover advantages but for these to be quickly eroded. It follows that any period of exclusivity should be relatively short. Telstra should not be allowed to earn supernormal profits to make investments which it would not otherwise make under competitive conditions (even if such investments have been made by Telstra in the past).

94. Most 'regulatory holidays' I am familiar with seem to have involved arbitrary determinations about their duration, based more on judgement than on facts. Most provide exemptions for a particular service or technology until a certain date, ignoring the fact that the most network investments are being made, and the returns earned, cumulatively over a period of time. A single 'cut off' date means that assets (e.g. individual sites) could earn very different returns depending on when they were first deployed, and that any assets deployed after the 'cut off' date will have no exclusivity benefit at all. It therefore seems to me that excluding a service or technology from the scope of a declaration has the potential be a very crude instrument for encouraging investment. It may be that appropriate incentives can be better established by the adoption of appropriate pricing principles instead. This is the topic to which I now turn.

[C-I-C]

Richard Feasey

1 December 2016

Annex A

Biography of Richard Feasey

Experience

1. Owner of Fronfraith Ltd (Sept 2013-present)

Advising clients, including telecommunications operators, financial institutions and regulators, on telecommunications related matters in Europe, Asia and Canada. Relevant recent work includes acting as an expert witness in the acquisition of cable TV assets in Australia, expert report on reform of limited merits review in the Australian energy sector, expert report on proposals to regulate mobile wholesale services in Canada and expert witness in ongoing litigation in London and New York relating to the insolvency of a European mobile operator.

2. Associate at Frontier Economics Ltd, London (Sept 2013- present).

Advising telecommunications operators and trade associations in the telecommunications sector in Europe and Asia. Relevant recent work includes mobile communications mergers in Europe, network sharing arrangements in Eastern Europe, margin squeeze tests in fixed telecoms markets, mobile wholesale network regulation in South Africa and Mexico and proposed structural separation of BT in the UK.

3. Senior International Policy Adviser to Wiley Rein L.L.P., Washington D.C. (July 2015-present)

4. Member of Advisory Board, Gigaclear plc (Sept 2013-present)

Advising Gigaclear plc, a rural fibre communications provider in the UK, on aspects of business strategy and stakeholder management

5. Member of Advisory Board, Masters with Business programme, University College, London (Sept 2013-present)

6. *Research Fellow, Centre on Regulation in Europe (CERRE) (Feb 2016-present)*

Currently co-authoring, with Professor Martin Cave, a report on European broadband policy.

7. *Occasional Lecturer, Kings College, London (Masters in Competition Law), University College, London (Masters with Business) (Sept 2013-present) Cambridge Judge Institute (Feb 2016-present)*

8. *Special Adviser to the House of Lords EU Internal Market Sub-Committee (Sept 2015-April 2016)*

Assisted the Committee in their enquiry into the regulation of online platforms such as Amazon, Facebook and Google. Report published at

<http://www.publications.parliament.uk/pa/ld201516/ldselect/ldcom/129/129.pdf>

Public Policy Director, Vodafone Group plc (Mar 2001-July 2013)

Responsible for all aspects of public, regulatory and competition policy and strategy for Vodafone in Europe, US and Asia, including Australia and New Zealand. Reported to a member of the Group Executive Committee and member of the Senior Leadership Team (top 200 leaders) and Group Risk Committee. Led Vodafone's engagement with senior policymakers in Brussels, Washington and in national markets throughout the world. Worked directly with the Group CEO and local CEOs. Advised the Vodafone Board, Group CEO, Group Executive Committee and Executive Committee members on all regulatory and competition matters affecting business strategy, M&A, financial planning and reputation management.

Founded the Vodafone Public Policy Papers series of publications and member of Columbia Business School Telecoms Advisory Board. First Chairman of the GSMA's Regulatory Board and founding Board Member of UK Telecommunications Ombudsman. Led the team that obtained clearance of the merger of Vodafone's Australian operations with Hutchison in 2009.

Vice President, MCI Worldcom International (1998-Mar 2001)

Member of the Executive Committee. Led a multi-country team in Europe and Asia, working closely with the Group CEO, Business Development Director and local market CEOs in identifying risks and opportunities in new geographic markets, including M&A and securing operating licences in Hong Kong, Singapore and Taiwan.

Regulatory and Strategy Director, Ionica plc (1995-1998)

Public Policy Director, TeleWest Communications plc (1991-1995)

Education

Nuffield College, Oxford University, United Kingdom
D.Phil in Politics (incomplete) (1989-90)

Bristol University, United Kingdom

1st Class B.A. in Politics (1985-88)

Publications

Various articles published on www.fronfraithltd.com

“Confusion, denial and anger: the response of the telecommunications industry to the challenge of the internet”, Telecommunications Policy, Vol 39, Issue 6, July 2015 at <http://www.sciencedirect.com/science/article/pii/S0308596114001268>

“Adapt or die”, Intermedia, January 2015 at <http://www.broadband4europe.com/adapt-die-eu-policies-richard-feaseys-view-way-forward/>

“Models of competition for broadband wireless”, Vodafone Public Policy Paper No. 15, August 2014, at http://www.vodafone.com/content/dam/group/policy/downloads/Spectrum_Policy_in_Emerging_Markets.pdf

“Global local: European telecoms regulation in the 2020s”, Oxera Agenda, July 2012 at <http://www.oxera.com/Latest-Thinking/Agenda/2012/Global-local-European-telecoms-regulation-in-the.aspx>

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