

## 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. **In light of the above, what are the pricing principles which would best accord with the statutory objectives which the ACCC has in this enquiry?**
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.

13. A substantial proportion of the potential consumer benefits to be obtained from a declaration of domestic roaming in Australia will, in my view, be dependent upon getting the scope of the declaration right. The additional benefits which might be obtained by adopting one pricing approach rather than another are likely, in my view, to be relatively modest in comparison. It follows that I think claims about the risks of adopting one pricing rule rather than another are likely to be overstated, largely because I expect regulated wholesale roaming revenues to remain a small proportion of Telstra's total revenues and because the opportunities for significant additional network investments on Telstra's part (at least without Government subsidy) appear to me to be limited. I would also not attempt to set prices to encourage additional investment on the part of Vodafone or Optus, since I think the prospects of this are low and it is very difficult to achieve this when prices are set on an aggregated basis so as to reflect average costs across a large geographic footprint, most of which will never be replicated.

14. I favour the use of the 'retail minus' or RMAC approach in the setting of domestic roaming prices. I think it can be implemented relatively easily and that the risk of strategic conduct is both limited in this case and can be avoided by the inclusion of additional conditions. Both the RMAC and the 'cost plus' approaches are likely to result in lower prices for most groups of customers, and the rate at which, and extent to which, this occurs will depend upon the competitive dynamics of the market as much as the input prices of the firms, making the precise outcomes difficult to predict. The main difference between RMAC and 'cost plus' relates to which firm (Telstra only or all firms) captures any rents (and in which market they arise) if retail prices remain above competitive levels. This factor should inform any consideration of the impact of different pricing approaches for Telstra's investment incentives.

## ANSWERS TO QUESTION POSED

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

15. 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.
16. 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*

17. 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:

<b>Competitors</b>	<b>Area (km<sup>2</sup>)</b>	<b>% of Landmass</b>	<b>Population (2015 estimate)</b>	<b>% of Population</b>
Vodafone, Optus and Telstra (oligopoly)	606,394	7.9% <sup>1</sup>	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%

18. 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.

19. 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 km<sup>2</sup> (i.e. Telstra's 2.4 million km<sup>2</sup> footprint, less 400,000 km<sup>2</sup> it shares with Optus, less 600,000 km<sup>2</sup> 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 km<sup>2</sup> 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

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<sup>1</sup> 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 400km<sup>2</sup> of additional coverage.

20. 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.
21. 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.
22. 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 it<sup>2</sup>. It also means that absolute differences in coverage – the precise number of km<sup>2</sup> – 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 400km<sup>2</sup> 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 km<sup>2</sup> 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.

23. 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 2004<sup>3</sup>, 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.
24. 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

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<sup>2</sup> 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.

<sup>3</sup> 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%94mobile%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 population<sup>4</sup>.

- 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 footprint<sup>5</sup>. 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 2005<sup>6</sup> (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 2004<sup>7</sup>.
- 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.

25. 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*'<sup>8</sup>. The situation

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<sup>4</sup> 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>

<sup>5</sup> ACCC, 2004, p. 25

<sup>6</sup> Ibid p. 28

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[http://www.acma.gov.au/webwr/radcomm/frequency\\_planning/radiofrequency\\_planning\\_topics/docs/globalstar.pdf](http://www.acma.gov.au/webwr/radcomm/frequency_planning/radiofrequency_planning_topics/docs/globalstar.pdf)

<sup>8</sup> 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*

26. 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.

27. 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.<sup>9</sup>*

28. 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

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<sup>9</sup> 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..

29. 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’<sup>10</sup> 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.

30. 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 landmass<sup>11</sup>. 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. [CONFIDENTIAL]

31. 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

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<sup>10</sup> Ibid p.41

<sup>11</sup> 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.

32. 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.
33. 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.
34. 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 1.4km<sup>2</sup> 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*

35. 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 km<sup>2</sup> rather than 1.4 million km<sup>2</sup>). 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.

36. 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 access<sup>12</sup>. Conversely, the firm who fails to obtain the wholesale sales will lose the entire margin, both wholesale and

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<sup>12</sup> 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.

37. 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.
38. 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).
39. 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.
40. I do not think it is necessary for the purposes of this report, nor for the ACCC for this i
41. 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 other<sup>13</sup>*

42. 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.
43. 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.
44. 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

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<sup>13</sup> 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.

45. 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.
46. 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*



47. 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.

48. 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

49. 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 400km<sup>2</sup> 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.

50. 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.
51. 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.
52. 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 km<sup>2</sup> 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.
53. 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.

54. I now turn to the second question.

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

55. 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.
56. 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 customers<sup>14</sup>.
57. 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 point<sup>15</sup>, although I have no evidence from Vodafone or Optus that would allow me to assess the

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<sup>14</sup> 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.

<sup>15</sup> 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*

58. 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:

<b>Benefit</b>	<b>Potential beneficiaries (as % of population)</b>
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%

59. 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*

- 60. 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.
  
- 61. 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.

62. 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.
63. 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.
64. 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.
65. The question which therefore arises from all this is 'how much do the majority of Australian consumers value coverage?'
66. 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.

67. 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 differentiation<sup>16</sup>. The ACCC did not accept that view then and it appears it does not do so now<sup>17</sup>. It is correct not to do so.

68. 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.

69. 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.

70. 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

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<sup>16</sup> ACCC 2004, p.35

<sup>17</sup> 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.

71. 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 are then paying too much precisely because the consumers in metropolitan areas are paying too much and national averaging of prices does not protect them.
72. 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.
73. 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.



74. 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.
75. 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 further<sup>18</sup>. 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 years<sup>19</sup>. 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.
76. 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:

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

<sup>19</sup> 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

77. 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?*

78. 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*’<sup>20</sup>. This appears to be based on two assumptions:

- 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.

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

80. 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.

81. 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.

82. 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 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.

83. 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.
84. 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.
85. 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*

86. 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.
87. 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.
88. 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.
89. 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 footprint<sup>21</sup>. 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).

90. 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.

91. 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

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<sup>21</sup> 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.

92. 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.

93. 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 exclusivity<sup>22</sup>. 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.
94. 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).
95. 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

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<sup>22</sup> 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).

96. 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.

**Question 3: In light of this, what are the pricing principles which would best accord with the statutory objectives which the ACCC has in this enquiry?**

97. Any consideration of how we might set prices for a domestic roaming service needs to take into account the fact that Telstra recovers the costs of its network investments by means of nationally averaged retail prices. These reflect and capture the large 'spillover' benefits of coverage which consumers living in 'competitive' metropolitan areas derive from that network. Provided the retail market is competitive, and provided that any consumers who do not value the additional network coverage cannot be obliged to contribute towards them, then the recovery of network costs through nationally averaged prices ought to be efficient.

98. But I have also argued that Telstra's current retail prices are nonetheless inefficient and that those who value coverage are paying too much for it. The reason for this is that competition for those consumers who value coverage is ineffective today, since Vodafone cannot participate in such competition at all, and Optus only to a limited extent. Consumers who are unwilling to trade lower prices for a loss of coverage are being forced to pay more than they otherwise should under competitive conditions. Telstra is likely to be making excessive returns as a result. These considerations would need to be taken into account when considering how pricing for domestic roaming might best be undertaken.

99. There are two aspects to the pricing principles which ACCC might consider. The first concerns the magnitude and nature of the costs which any charges would be intended to recover. These depend upon the nature of the service which is declared, but also upon other policy considerations, such as concern about the incentives on the part of Telstra, and potentially Vodafone and Optus too, to continue to invest efficiently in their respective networks.

100. Having determined the magnitude of costs to be recovered, a further question arises about the structure of prices. A price ought to promote the efficient consumption of resources, meaning that those who are in a position to impose or cause additional costs ought to bear the consequences. In this case, however, the position is made more complex by 'spillover' benefits, which mean that many consumers derive value from investments in regional network coverage without necessarily consuming services on that network. They will, in other words, buy 'access' to the coverage, just as many of us buy gym subscriptions without necessarily visiting the facilities very often, or indeed at all. Without a willingness on the part of those consumers to pay for additional coverage through access fees (rather than usage fees), it seems unlikely that much of the network coverage we see in regional Australia today would have been built (or would be maintained in the future).

The ACCC therefore needs to devise a structure of prices which properly accounts for these considerations.

*The magnitude of costs to be recovered*

101. I start by considering the magnitude of costs which are to be recovered by a domestic roaming charge. There are, I think, essentially three ways of deriving prices for domestic roaming services: benchmarking, 'retail minus' and 'cost plus' approaches. I understand that the ACCC has used all three at various times in the past.

102. In the present case, I start from the assumption that appropriate benchmarks will not be generally available to the ACCC in relation to domestic roaming and, to the extent that they are, are very unlikely to be relevant or applicable to the present case. Such benchmarks could take the form of 'competitive' or regulated prices for domestic roaming services that have been established in other countries, or prices for services with similar characteristics (such as inbound international roaming) that have been established under 'competitive' conditions within the Australian market. In the former case, there are insufficient prices available in the public domain from which to derive meaningful results, and those that are relate to services that are provided under very different conditions.<sup>23</sup> In the latter case, prices that might be derived from inbound international roaming charges will reflect the same competitive or non-competitive conditions that prevail in relation to the domestic retail market, and so there is a danger of circularity if these are adopted as a 'competitive' benchmark, whilst the scope of the services is fundamentally different as well. I do not consider benchmarking to be a viable option for the ACCC in this case and so do not consider it further.

103. The ACCC may, however, wish to consider some form of 'retail minus avoided cost' (RMAC) pricing principle to accompany any declaration it might make. This is likely to be easier to implement than any 'cost plus' approach, although it is also not without complexity, as I explain below.

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<sup>23</sup> I have been following debates about mobile access pricing for around 15 years. The only published prices that I am aware of are those published by Hutchison Austria in connection with their acquisition of Orange in 2012. These appear at Appendix A in [https://www.drei.at/portal/media/bottomnavi/ueber\\_3/wholesale/2012h3referenceoffer.pdf](https://www.drei.at/portal/media/bottomnavi/ueber_3/wholesale/2012h3referenceoffer.pdf). I am also aware that the Canadian regulator, the CRTC, required the large Canadian operators to submit 'cost based' domestic roaming prices by November 2015 and that, in August 2016, the CRTC announced that it intended to allow firms to enter into negotiated arrangements which might differ from those required by the regulation (so called 'off tariff' rates), at least until the final regulated tariffs were approved (<http://www.crtc.gc.ca/eng/archive/2016/2016-313.htm>). It is not clear to me when or even whether the CRTC intends to approve final tariffs.

### *Retail minus avoided cost*

104. The first issue with a RMAC approach is that Telstra's retail prices would, under competitive conditions, be set so as to recover its average network costs across the *entire* network, whereas I am assuming that the scope of the ACCC's domestic roaming declaration will be confined to the monopoly and duopoly areas discussed in the first section of this report. If that is the case then Telstra's retail price for coverage over its entire footprint will not correspond, in terms of either geographic scope or applicable network costs, to the wholesale coverage in the monopoly and duopoly areas for which we are seeking to establish a price. This means that we cannot simply use Telstra's existing retail prices (even if we thought they were set at competitive levels) to derive a wholesale roaming price after subtracting relevant retail costs. Instead, we need to derive a wholesale price as if Telstra were retailing a service which offered coverage only in the duopoly and monopoly components of its network. Fortunately, there are several ways in which this might be accomplished.

105. We could start by deriving a wholesale price for coverage in the competitive or oligopoly area which we want to exclude from the calculation. This is likely to be a 'competitive' price and to reflect the costs of providing coverage within that area. There are several ways of establishing such a price:

- a. One way is to derive a wholesale price by applying an RMAC test to the retail prices of Vodafone. Vodafone is subject to strong competitive retail constraints, and so its retail prices are likely to reflect the costs (to Vodafone) of providing coverage in the oligopoly area (plus a reasonable retail margin).
- b. An alternative approach is to start with the current Vodafone wholesale price for MVNOs. I assume this is set on the basis that Vodafone competes effectively with Optus and Telstra for MVNO business, even though both Optus and Telstra offer superior coverage. This ought, therefore, also to reflect the efficient costs of providing coverage in the oligopoly area.
- c. A third option is to start with the current Telstra wholesale price for MVNOs. This is competitive price to the extent that, as I understand it, Telstra's wholesale footprint is broadly matched by Optus and to the extent that Vodafone will discount its wholesale

prices in order offset the coverage advantage in Telstra's offer<sup>24</sup>. The advantage of this approach over the other two is that the price ought to reflect Telstra's own network costs, rather than those of Vodafone. On the other hand, this price does not reflect an offer of coverage only for the oligopoly area, since it includes coverage in the duopoly area which we would otherwise want to exclude<sup>25</sup>.

106. I would expect any and all of these approaches to be practicable, to produce broadly similar results and for none to have any particular advantage over another. Using benchmarks like these always involves some risk that firms might attempt to influence whatever benchmark is chosen, knowing that the ACCC will rely upon it to derive the domestic roaming price. Since I expect that all of the prices referred to above would be established under competitive conditions, I think the risk of firms being able to engage in strategic conduct of this kind is limited in this case. The incentives of the firms also diverge – Vodafone is likely to want to raise wholesale prices in the oligopoly areas in order to reduce the price of roaming in the duopoly and monopoly areas, but runs the risk of losing wholesale share to Telstra if it does so. Telstra is likely to want to reduce wholesale prices in the oligopoly area, but would be likely to forgo wholesale profits if it did so. Optus is likely to constrain both parties. The result is likely to be that any attempt to influence the derivation of the wholesale roaming price would be difficult and costly for whomever attempted it.

107. Having derived or obtained a wholesale price for the provision of access in oligopoly or competitive areas, I would then derive a price for wholesale coverage in the monopoly and duopoly areas (i.e. the areas which I consider should be included within the scope of the declaration) by subtracting this price from the nationally averaged prices which Telstra offers in the retail market. This is illustrated as follows:

a. Assume that Telstra's average retail price was \$50/month<sup>26</sup>.

b. Assume that an efficient retail margin (whether derived from Telstra's own retail costs or from those of a reasonably or similarly efficient operator<sup>27</sup>) was \$10/month. Thus,

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<sup>24</sup> I have been advised that one MVNO, Boost, appears to enjoy access to the entirety of Telstra's network footprint. I ignore this on the basis that the firm appears relatively small and unlikely to affect the logic of what I propose.

<sup>25</sup> This means it may be more appropriate to use this approach when setting a price that Optus might pay to roam within the monopoly area than the price that Vodafone might pay to roam in the monopoly and duopoly areas.

<sup>26</sup> I use 'per customer' rather than 'per service' or 'per unit (Mb/second or text)'. I discuss this later when considering the structure of prices. It is enough to note here that today's bundling of services means that an RMAC approach could not plausibly be used to derive a 'per service' price, even if this were thought to be an appropriate basis on which to recover costs.

provided Telstra charges an input price of less than \$40/month, competition in the downstream market ought to be sustainable

c. Further assume that the corresponding wholesale price for coverage in the competitive areas, however derived, is \$15/month<sup>28</sup>.

d. On that basis, the domestic roaming charge levied by Telstra should be no more than \$(40-15) or \$25/month.

108. It will be immediately apparent that, in my simple example, \$25/month does not represent Telstra's 'costs' of supplying coverage. Nor does it represent a 'competitive' or efficient price. This is because Telstra's current retail prices also embody a degree of market power which it exercises over those 'captive' customers who either do not have any choice of provider at all, or for whom the other networks are not a real choice today.

109. However, the effect of the approach I propose is that Telstra's nationally averaged retail price would gradually be competed down. The \$25/month wholesale price is intended to be a price which allows Vodafone (and Optus) to offer coverage that matches that of Telstra *at current retail prices*. If that is right, Vodafone and Optus will 'enter' the Telstra monopoly and will become a credible choice for those 'captive' consumers in metropolitan areas who had never previously considered them, as well as providing an alternative in regional Australia where no alternative previously existed. Telstra would begin to lose market share at current prices, and so can be expected to reduce its retail prices to stop the loss and to meet competition, forgoing rents in the process.

110. There is a danger, inherent in all forms of RMAC pricing, that this process goes too far and that Vodafone and/or Optus continue to drive average retail prices down to levels at which Telstra would no longer be able to recover its overall network costs. The opposite risk arises too. That is, the derived wholesale price for domestic roaming might reflect network cost inefficiencies (as

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<sup>27</sup> To simplify the example, I have not addressed how retail margins might be computed for the purposes of this pricing rule and whether, for example, Telstra's own retail costs or those of some 'reasonably efficient operator' would be used to derive them. The Norwegian regulator has recently published its own views on the application of margin squeeze rules to the assessment of Telenor's domestic roaming charges, albeit in somewhat different circumstances to those presented to the ACCC, see [http://www.nkom.no/marked/markedsregulering-smp/marked/marked-15/\\_attachment/23793?\\_ts=154a4c60899](http://www.nkom.no/marked/markedsregulering-smp/marked/marked-15/_attachment/23793?_ts=154a4c60899). Ofcom, the UK regulator, BEREC and the European Commission have all devoted significant attention to how retail margins might be derived when using RMAC, and no doubt the ACCC has already given this matter consideration too.

<sup>28</sup> I recognise that average wholesale prices in the competitive areas may reflect different customer profiles than those that are reflected in Telstra's average retail price – for example because of differences in the profile of Telstra's retail customer base and the profile of customers of its own MVNOs or those of Vodafone. For the time being, I assume these differences are relatively immaterial since over 90% of Telstra's retail customers will reside in areas where Vodafone and MVNOs also compete (I return to the issue of 'captive' customers below). I also assume that the structure of Telstra's charges allows the ACCC to derive a 'per customer' price equivalent to that derived at the retail level. I have not examined, in detail, the practicality of undertaking these tasks.

opposed to excess rents from Telstra's market power in the retail market) which ought not to be passed onto consumers. It is certainly the case that the aim of an RMAC approach is to promote (efficient) competition in the downstream market rather than in the upstream network market. However, as retail margins contract under the weight of more effective competition, Telstra ought to have stronger incentives than it may have today to improve the efficiency of its network in those areas where it otherwise faces no competitive pressure to do so. I have no evidence to suggest that Telstra's network is inefficient today, but no reason to believe that a monopoly provider has particularly strong incentives to be efficient either. It therefore seems reasonable to suppose that a consequence of greater retail competition may be that Telstra extracts greater efficiencies from its network in future, although the incentive to do so under RMAC may be weaker than under 'cost plus' approaches which explicitly embody efficiency assumptions.

111. I conclude from all this that the RMAC approach may incentivise Telstra to realise efficiencies in its network (which it may not be incentivised to realise today), but that the ACCC should not assume that these will necessarily all be passed through by Telstra to consumers in the form of lower retail prices. Equally, however, I think it likely that Telstra will be obliged to meet retail competition from Vodafone and Optus, and that some cost efficiencies (as well as excessive rents) will be passed on to consumers as a result. It is difficult to anticipate with certainty how the various interactions would work and the ACCC might be advised to consider including additional conditions in the pricing principles in order to address the concerns I have outlined:

- a. To address the risk that retail prices are driven below Telstra's efficient average costs – a point far removed from where Telstra appears to be today - it might be open to Telstra to argue that non-compliance with RMAC rule can be justified if it can demonstrate that it would otherwise be unable to cover the efficient costs of providing network coverage to either to its own customers or to those who rely upon domestic roaming. In such circumstances, Vodafone and Optus would face negative retail margins and retail prices for all three competitors would return to more sustainable levels. Such a scenario is very unlikely to happen in the foreseeable future, or indeed at all, and so the ACCC would need to be very careful that this rule was not prone to abuse by Telstra and would need to ensure that the burden of proof upon Telstra before non-compliance was allowed was appropriately demanding.
- b. To address the risk that retail prices might remain 'sticky' and fail to adjust in line with changes in costs or network efficiencies, the ACCC might give itself the power to infer network cost trends from historic movements in wholesale prices in competitive areas and apply those to the wholesale prices which it derives for domestic roaming. For example, if

wholesale prices in competitive areas fell by 10% to \$13.50/month, but retail prices fell by 2% to \$49, then the derived price for domestic roaming (assuming no change in retail costs) would be  $(49 - 10 - 13.50)$  or \$25.50. Vodafone and Optus would see an increase in their domestic roaming wholesale prices, despite evidence that network costs were falling significantly. This would suggest that any benefits of network efficiencies in the monopoly and duopoly areas were being retained by Telstra, rather than being passed to consumers. To avoid this, the ACCC might require that the wholesale roaming prices should fall by 10% p.a. or by the rate implied by Telstra's retail price movements, whichever is the greater.

### *'Cost plus approaches'*

112. The advantage of a 'cost plus' approach relative to the RMAC is that it ought, in theory, to avoid the risk that any price includes either Telstra's network inefficiencies or Telstra's retail market power. The RMAC approach outlined in the previous section relies upon the retail competition that would be enabled by the declaration to erode both sources of inefficiency and to force the wholesale price down over time. A 'cost plus' approach is likely to produce wholesale prices which are lower (and more efficient) from the outset

113. But although 'cost plus' approaches are commonly employed by regulators around the world to set prices, particularly for services over which there is monopoly supply, they are not without challenges. There are always significant information asymmetries between the regulated firm(s) and the regulator which increase the risk that the regulator will set prices which are either too high or too low. Prices that are 'too high' are likely to result in consumers paying more than they should, whereas prices that are 'too low' can have adverse effects on investment incentives and, hence, on the long term interests of consumers. In the present case, the matter is made more complex by the fact that we are seeking to set a price for access to a portion of the Telstra network in both monopoly and duopoly areas rather than in all of it. In what follows I discuss some of these complexities, but I do not attempt to provide a full or detailed account of how the ACCC would use a 'cost plus' model to set prices for domestic roaming.

### *The RAB approach*

114. There are two basic approaches to 'cost plus' pricing, the choice of which depends partly on practical matters such as the availability of regulatory resources or access to data, and partly upon the objectives which the regulator is pursuing when undertaking the task. The first approach relies upon examination of the regulated firm's financial records and statements to derive a view of the



nature and value of the network assets which the firm has deployed and the costs of which it has to recover. This produces a 'Regulated Asset Base' or RAB, either derived from the costs incurred by the regulated firm (and recognising, through the depreciation profile, that some of these costs will already have been recovered) or based upon the current costs that the regulated firm (or some other firm) might be expected to incur were it to replicate the network today. In the latter case, the financial costs derived from accounting statements will need to be revalued to reflect the current prices of assets. The regulator may also take a view as to whether costs have been efficiently incurred if the network owner is a monopolist. The resulting value of the RAB is then 'locked down' for a period during which (efficient) additions can be made if agreed by the regulator (e.g. if Telstra were to make new investments in capacity, in extending 4G coverage or in 5G technologies), but where no fundamental revaluation is undertaken (save for inflation-related indexation of the RAB to reflect appreciation in the value of assets over time). The RAB is depreciated, a cost of capital computed, and an annual network cost derived. That network cost is then recovered across the various services, by reference to some cost allocation rule (often traffic volumes generated by the respective services, reflecting their relative utilisation of the network) rather than, as with the RMAC approach, by reference to some implicit willingness to pay<sup>29</sup>. These are all matters on which there is a significant literature and with which the ACCC will already be familiar following its recent determinations on pricing principles for fixed line services<sup>30</sup>.

115. The great attraction of the RAB approach is that it allows the regulator to tie prices back to the actual financial statements, asset registers and other documentation of the regulated firm, and that it provides the regulated firm, and its financiers, with some confidence that it will be able to recover its costs (both current and prospective) over the long term without the regulator changing the rules. In energy and other infrastructure markets where almost the entire cashflows of the company may rely upon regulated returns, these considerations are very important indeed. An inability to finance the infrastructure would have very adverse social as well as economic consequences, whilst the predictability and security provided by the RAB ought to lower the costs of funds in industries which require large, ongoing capital investments.

116. Telstra's network in the monopoly areas, where such monopoly is likely to be enduring and any withdrawal of supply would be very damaging to those customers who live and work within those areas, has characteristics which appear to lend itself to the RAB approach. On the other

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<sup>29</sup> In this case, the relevant demand over which costs would be recovered would seem to include: Telstra's retail services, incoming calls from other networks, inbound international roaming services and wholesale domestic roaming services. Telstra's wholesale MVNO services would also make a small contribution within the duopoly area only.

<sup>30</sup> <http://www.accc.gov.au/system/files/FSR%20FAD%20Final%20Decision%20Report%20-%20Public%20Version.pdf>

hand, I would expect Telstra to derive a relatively small fraction of its total revenues from regulated domestic roaming charges, if such were imposed, and so concerns about financing are likely to be limited to future investments at the margin rather than to its ability to finance the core business. I also doubt the approach taken by the ACCC will have any material impact on Telstra's cost of capital.

117. There are other differences between energy and other industries where the RAB approach has been favoured and the mobile sector. There is, for example, greater technology uncertainty in the latter, with uncertainty about when or whether 3G networks might come to be decommissioned and replaced by 4G or 5G (with corresponding implications for the rate at which the assets in the RAB are depreciated). The ACCC has already wrestled with question of demand fluctuation and asset redundancy in its recent review of fixed line pricing principles, and I see no reason why the application of the RAB approach to domestic roaming would present challenges that were any greater than those which the ACCC has already encountered. That said, there are a number of issues to consider further.

118. The first is that the ACCC would need to establish a RAB in respect of those assets which it holds in the monopoly and duopoly areas, rather than for the entire network. I do not know whether Telstra holds information about its existing assets on a sufficiently granular level to be able to do this. I assume that a very significant proportion of Telstra's total network costs will have been incurred in the provision of coverage in the monopoly (and to a lesser extent duopoly) areas, given that it accounts for around 75% of the total network coverage by landmass. I would expect Telstra's network density to be much higher in metropolitan areas, both in order to meet capacity requirements and to overcome the geography of urban areas, and the network build costs per site are also likely to be higher (although backhaul and transmission costs may be lower). Nonetheless, a large number of sites – likely more than 2000 - are likely to be in the monopoly and duopoly areas and to represent a significant proportion of Telstra's total network costs.

119. It is necessary to establish a RAB specifically for the monopoly and duopoly areas. The implications of not doing so depend on how prices are structured to recover costs. If prices are set on a usage or unit basis, the average cost of providing the roaming service in the monopoly and duopoly areas are likely to be substantially higher for than for the network as a whole (which is of course precisely why this part of the network has not been replicated by other firms). Vodafone's customers would pay less than they ought, and Telstra would be forced to recover the difference from its own customers. Telstra would be unable to compete. If, on the other hand, prices were set on the basis of a per customer access fee, Vodafone's customers would pay more than they ought, since they would be (over) paying for Telstra coverage within areas where Vodafone had a

network, as well as covering the costs of Vodafone's network. Vodafone would be unable to compete unless it decommissioned its own network and relied upon roaming across the entire Telstra footprint instead. Either outcome would be unsatisfactory and unlikely to meet the ACCC's statutory aims.

120. Conduct like this is often referred to as 'cherry picking', and tends to occur when regulation allows firms deploy their own network in below average cost areas but to obtain the benefits of prices which are set as if they consume services across the entire network. In my example, there is also a problem that arises from tying the parts of the Telstra network which Vodafone wishes to use (in the monopoly and duopoly areas) with parts of the network which it has already replicated (in the oligopoly area) and so doesn't need. These problems might be somewhat mitigated if the declaration were to be a temporary (i.e. time limited) measure, applied only whilst the access seeker built its own network. This is often the case when obligations to supply national roaming are imposed in other markets. But that option is not available to the ACCC here, since Telstra's rural monopoly is likely to endure for the foreseeable future and there is no prospect of others being able to replicate it.

121. The second challenge relates to the nature and valuation of assets to be included within the RAB for the duopoly and monopoly areas. I understand, for example, that some proportion of these assets may have been financed in whole or in part, or otherwise attracted compensation, as a result of the operation of various Government subsidy schemes which have sought to support network coverage and service availability in areas where Telstra would otherwise not have been expected to provide services. These may include payments under universal service schemes, as well as direct subsidies of assets over which Telstra may hold full title. To the extent that such payments have served to reduce Telstra's capital costs, they should be deducted from the RAB, and to the extent that they continue to subsidise ongoing operating costs, then they should be similarly deducted from any wholesale charges. Similarly, assets such as transmission links may be used by Telstra to support the provision of both fixed and mobile services. Such costs will also need to be appropriately allocated between fixed and mobile activities (before those that are allocated to mobile are then further allocated across different services).

122. The third challenge relates to the possibility that, nonetheless, some assets (i.e. sites) that are included within the RAB might nonetheless be capable of replication by Vodafone or by Optus. This is potentially problematic because the price that is derived from the RAB is intended to allow for the recovery of Telstra's costs rather than to send the correct build/buy pricing signals to Vodafone or to Optus. Telstra's superior economies of scale or other strategic advantages may mean that its unit costs are substantially below those of Vodafone or some reasonably efficient

operator. Prices that are derived from Telstra's RAB may therefore be insufficient to incentivise efficient network investment by Vodafone or Optus, with consequent potential losses to long term consumer welfare (albeit with likely short term benefits in the form of lower retail prices). Recognising this, regulators generally make adjustments to the methodology that is employed to derive wholesale prices when they consider that assets are replicable. This often involves adjustments for differences in scale and, sometimes, in relation to specific strategic advantages which the incumbent holds but which are not available to the entrant (e.g. differences in network cost that might be attributed to differences in spectrum holdings).

123. My view is that this concern ought not to trouble the ACCC too much in this context. There is a judgment to be made about the extent to which coverage in the duopoly area is capable of being replicated by Vodafone. It may be that a few sites in the monopoly area could, in future, be replicated by Vodafone and/or Optus. However, the ACCC cannot set a domestic roaming price on a site by site basis to reflect the build/buy decision which the operators would face in each case and I know of no regulator in the world that has attempted this, nor of any operator that would be capable of billing for it. The only practical way to proceed is for the ACCC to set an average wholesale price for the provision of roaming within an aggregated monopoly and duopoly area. Since I would expect the number of sites that are potentially capable of replication by either Vodafone or Optus to be a very small fraction of the total, any adjustments to the pricing rules that might be made to capture incentives to replicate these assets are likely to have a minimal impact on the overall RAB or the resulting (average) prices. Unless they could be targeted at the specific sites in question, a general increase in average prices for the entire area will either be ineffective or highly inefficient<sup>31</sup>.

124. The fourth challenge relates to the position of Optus. Thus far, I have considered the application of the RAB approach on the basis of deriving a price which Vodafone would pay to Telstra to roam on the Telstra network in the monopoly and duopoly areas. But there is also the possibility that Optus may wish to roam on the Telstra network only in the monopoly areas, in which case the unit price payable by Vodafone might be assumed to be too high. I suppose it is also possible that Vodafone might wish to roam on Optus' network in duopoly areas and upon Telstra's network in monopoly areas, although I have argued earlier that I consider coverage in monopoly and duopoly areas as being complementary and it seems more likely that Telstra would supply both. If Optus were itself to have obligations to supply roaming on its network under the

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<sup>31</sup> The 'aggregation' problem is easily illustrated by imagining that Vodafone would build 3 sites out of a total of 100 if the wholesale price were \$10/site, but that Telstra's average cost was \$8/site. If the ACCC set a price of  $(97 \times 8) + (3 \times 10) = 806/11 = \$8.06$ , then none of the 3 sites get built and Telstra earns a profit/consumers overpay by \$6 overall. In order to get the 3 sites built, the ACCC would have to set a price of  $100 \times 10 = 1000$ , with the result that Telstra earns a profit/consumers overpay by \$200.

declaration, then it is not obvious that a RAB derived from Telstra's financial statements would be the place to start.

125. My view here is that the ACCC should find that the provision of domestic roaming by Telstra is sufficient to deliver the competitive benefits that I have identified earlier. That is, provided Telstra provides access on regulated terms and thereby enables both Optus and Vodafone to compete effectively in downstream markets, it is not necessary for the ACCC to require Optus to provide wholesale roaming services as well. If the certainty that Telstra must supply Vodafone on regulated terms induces Optus to propose more attractive commercial terms, then so much the better. But I see no reason to oblige Optus to do so.

126. A problem still arises in relation to Optus' requirement for access to the Telstra monopoly area. The price Optus pays clearly ought to be lower than the price payable by Vodafone for the monopoly and duopoly areas. If the ACCC can produce a RAB specifically for the assets in the monopoly and duopoly areas, then it ought equally to be able to produce a RAB for the monopoly area only and to derive a corresponding price. Doing so may also provide some, albeit crude, incentive to Vodafone to expand its network presence within the duopoly area in order that it might in future benefit from the lower monopoly area access price (although I remain of the view that Vodafone is unlikely to be able to fully replicate Optus' coverage in the foreseeable future)<sup>32</sup>.

127. I therefore conclude that it ought to be possible to apply a RAB approach to the pricing of domestic roaming, but that this will require the careful segmentation of Telstra's asset base along both geographic and business lines (and the exclusion of assets that have been subsidised by others). I would be relatively unconcerned about whether the RAB provided appropriate incentives for Vodafone or Optus to replicate Telstra's network, given the likely weighting of replicable and non-replicable assets within the overall asset base. Moreover, I would apply the RAB approach to the provision of domestic roaming services by Telstra, but would not require Optus to provide access to its network.

#### *The Incremental Cost approach*

128. The approach to 'cost plus' pricing that is more often favoured by telecoms regulators, particularly with regard to mobile networks, is to use Incremental Cost Models. There are numerous versions of such models, which are discussed extensively in the literature and with which the ACCC will already be very familiar. For current purposes, I have in mind a cost

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<sup>32</sup> I noted earlier that there were also ways to derive a price for the monopoly area under the RMAC approach by using the Telstra wholesale price, rather than Vodafone prices, as the relevant benchmark for the value of the 'competitive' (oligopoly and duopoly) area.

modelling approach which seeks to establish the costs of deploying a hypothetical but efficient network in order to serve a given level of demand. The model then allows the regulator to derive the costs of fulfilling the demand associated with an individual service or 'increment' (in this case domestic roaming) by dimensioning the network and computing network costs both with and without that demand. Volumes can be varied to adjust for the scale of the 'efficient' entrant, allowing regulators to derive prices which, whilst they may not reflect the historic costs or current costs actually incurred by the access provider, nonetheless provide appropriate and efficient build/buy pricing signals to the access seeker. One criticism of the Incremental Cost approach is that it can produce highly stylised results which bear little relationship to the practical reality or actual costs incurred by the firms, with consequent risks of under-recovery or over-recovery. To address this, regulators often attempt to undertake a reconciliation of their modelling results with actual data that is provided by the regulated firms in order to, at the least, understand why and if differences arise.

129. One obvious attraction of Incremental Cost Models (relative to the RMAC approach) is that they can be used to derive the costs of any network or part of a network, including a network of partial geographic scope. Thus, in this case, it ought to be straightforward to model the costs of providing a coverage network within monopoly and duopoly areas, either together or separately. Another potential advantage is that they allow the regulator to compute network costs with reference to the scale and other characteristics of a wide variety of firms, simply by adjusting assumptions and inputs into the model. It would, for example, be possible to model the costs which Telstra's rivals, Vodafone and Optus, might reasonably be expected to incur if they were to replicate some or all of Telstra's network coverage. If the ACCC concluded that it needed to include domestic roaming services that might be supplied by Optus within the scope of the declaration, then deriving an appropriate cost for the provision of such a service may also be easier using the Incremental Cost approach than a RAB<sup>33</sup>.

130. One issue that is often debated with Incremental Cost Models is the extent to which network costs might be said to vary with volume and the extent to which they are independent of demand. This is important in the current context because, in modelling mobile networks, it is the 'coverage network' that is regarded as being a fixed cost to be recovered across all services, whereas the capacity of a mobile network is variable over the long run. Most Incremental Cost Models for mobile networks that I am familiar with combine 'coverage costs' (which include a minimum level of capacity, since it is not possible to supply coverage without capacity) with incremental

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<sup>33</sup> I note that other challenges discussed in relation to the RAB approach, such as the appropriate treatment of assets which have been the subject of public subsidy or which support both fixed and mobile services, would also need to be addressed in the Incremental Cost Model.

capacity costs arising from the additional network investments that have to be made as demand grows (e.g. as additional sectors are deployed, additional spectrum is acquired and deployed, or as other technological upgrades are made). However, in the current case, it appears likely that an Incremental Cost Model of Telstra's network in regional Australia would be dominated by fixed coverage costs and would have few, if any, variable or capacity related costs. This is because the network that is deployed to provide coverage is already likely to have sufficient capacity to meet all foreseeable demand in the vast majority of cells, making additional capacity upgrades will be unnecessary.

131. The fact that almost all of the costs in Telstra's regional network are likely to be fixed costs that are common to all services (rather than being directly attributable to any one of them) means that the magnitude of costs to be recovered in a domestic roaming charge will depend on how those coverage costs are allocated between different services – for example, between Telstra's own retail services, incoming calls from other networks, incoming international roaming traffic and whatever traffic would be generated by those taking advantage of the domestic roaming declaration. When costs vary with the consumption of a particular service it is clear that those causing the costs ought to bear them and that prices should equate to marginal costs. But in this case, and in the case of most mobile network services, setting prices at marginal costs would ignore the coverage costs which Telstra necessarily incurs and which it must also recover. It is therefore necessary to find an allocation rule which allows for the recovery of these fixed costs without unnecessarily distorting the pricing signals that consumers face (and which ensure that the same costs are not recovered twice from different groups of customers). How costs are recovered depends on the structure of prices, to which I now turn.

#### *The structure of prices*

132. A second implication of a Incremental Cost Model in which fixed costs are potentially very significant and incremental costs very small relates to how such costs might then be recovered through wholesale prices. Such a cost structure would tend to suggest that we should adopt a 'two part' pricing structure, with consumers paying a fixed 'access' fee to reflect the fixed costs of coverage and a variable 'usage' fee to reflect any additional capacity related costs which their utilisation of the network may impose upon it. Such a structure would not only properly reflect the costs faced by Telstra, but would also seem to reflect the 'option value' which consumers in metropolitan areas appear to attach to the provision of coverage in areas where they may (or may not) wish to travel at some point in the future. These considerations about the appropriate

structure of prices would apply irrespective of whether an RMAC, RAB or Incremental Cost is used to determine the magnitude of costs which need to be recovered.

133. If a 'two part' pricing structure is adopted, an 'access' fee would be payable for subscribers (e.g. to the Vodafone or Optus network) who benefited from being able to roam on the Telstra network, but would not be levied on any who did not have this option. The result is that the fixed costs would be shared by a very large number of consumers (perhaps 60-70% of the population), even if only a small proportion of them (perhaps 10-20%) were to actually utilise the assets in a given year. The alternative approach would be to rely only upon usage related charges to recover all of the network costs. But in this case, the number of consumers who would pay such charges would be much smaller, and the resulting unit prices for those who did so would likely be so high as to deter them from ever consuming the service (thereby eliminating any consumer benefits that might otherwise arise from the declaration).

134. If this is right, then I think the ACCC has essentially three options in relation to the structure of prices:

- a. It could employ a 'two part' pricing structure, involving a fixed per consumer or per connection 'access' fee to capture an appropriate proportion of the fixed costs, and a 'per call' or 'per MB' usage related charge to reflect the average incremental cost of supplying services within the geographic area covered by the declaration. In such a case I would expect the usage related charges to be comparatively low.
- b. If usage related charges were as small as I anticipate, they might be abandoned altogether on the grounds that they add complexity to billing arrangements and serve little practical purpose. They would not be sufficiently large to deter utilisation in congested cells<sup>34</sup>, but since the number of cells that were expected to be congested would be very small, the resulting inefficiency would also be very small. This might also be the approach to pricing if the RAB approach were used, since in that case it would be difficult for the ACCC to derive incremental costs in a confident manner using that approach.
- c. Option (b) could be adopted, but with safeguards in place to ensure that a zero marginal costs of consumption did not result in Telstra incurring unexpected or inefficient costs in some parts of its network as Vodafone's roaming customers overconsumed in congested cells. For example, a per customer charge could be accompanied by an aggregate volume cap (or, possibly, a per SIM cap), after which Telstra would be entitled to levy additional

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<sup>34</sup> Another example of the problem that arises when prices are averaged but incentives differ by individual site.



'overage' charges to reflect the additional costs it incurred in the meeting additional demand. These charges would then be likely to be reflected in Vodafone's own retail tariffs, so that customers would face significantly higher 'overage' charges once a certain volume threshold was exceeded. I note that such constraints and safeguards are said to have been applied in wholesale arrangements concluded between network providers and certain MVNOs in Europe, where such arrangements have otherwise involved the provision of network capacity on a fixed rather than variable charge basis<sup>35</sup>, and they are also a common feature of many mobile retail price plans around the world today.

#### *Impact of different pricing approaches on the development of prices*

135. I now consider the effects of setting prices on the basis of, first, RMAC and then 'cost plus' (without distinguishing between RAB and Incremental Cost approaches at this stage) on wholesale prices, competition and retail prices in order to consider how different groups of consumers are likely to be affected by the declaration. I note that the ACCC specifically seeks comments in its Discussion Paper on the impact of wholesale pricing upon competition and upon the resulting retail prices payable by consumers<sup>36</sup>. What follows is not an attempt to formally model the distributional consequences of the declaration or to quantify its effects, but to examine the question posed by the ACCC.

136. In second section I distinguished between four groups of consumers:

- a. Those consumers who I described as being 'captive' to Telstra today, being consumers who value coverage in regional Australia to the extent that they would not consider switching to any carrier which did not offer such coverage. This group clearly includes any consumer who lives within the Telstra monopoly area (since I assume nobody would subscribe to a network which did not offer connectivity in the area where they lived), as well as a proportion of consumers who live in the duopoly or oligopoly areas, but for whom coverage in the monopoly area (giving them the 'option' to be connected) is of very significant value to them. These consumers are only likely to switch away from Telstra to another carrier if that carrier is able to offer comparable coverage (to Telstra).

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<sup>35</sup> Although the commercial terms are not public, I understand this is a feature of the arrangement between Telefonica O2 and Drillisch, pursuant to the commitments provided by the former firm in relation to the merger with E-Plus, details of which are provided at [http://ec.europa.eu/competition/mergers/cases/decisions/m7018\\_6053\\_3.pdf](http://ec.europa.eu/competition/mergers/cases/decisions/m7018_6053_3.pdf)

<sup>36</sup> Question 48 in the Discussion Paper

- b. Those consumers who are more prepared to trade off coverage for price and are willing to do so at current prices. These will be customers of Telstra today and some of Vodafone or Optus. If either prices or coverage were to change as a result of the declaration, this group of customers might make different choices in terms of both tariffs and provider.
- c. Those consumers who are not able to trade off coverage for price at current prices, since Telstra is too expensive for them today. They are customers of Vodafone and Optus today. Some of these consumers might be prepared to pay more than they do today for better coverage, provided the price was lower than that demanded by Telstra today.
- d. Those consumers who live in the oligopoly area and who do not value coverage in regional Australia at all, and who are therefore likely to seek the lowest price whatever coverage is offered. These consumers are unlikely to switch to another carrier on the basis of coverage, but would switch away from a carrier which attempted to raise its prices (or to a carrier which lowered them).

137. The wholesale prices for domestic roaming introduced by the RMAC approach are intended to allow a rival with (a) similar retail costs and (b) similar network costs of providing services and coverage in the oligopoly area, to be able to match Telstra's coverage and to match Telstra's retail prices from the outset. If wholesale and retail prices were to remain unchanged thereafter, then consumers would benefit from greater choice of carrier than before, but overall prices paid by consumers would be likely to remain essentially unchanged.

138. Vodafone's and Optus' costs of providing services in the oligopoly area would remain unchanged (since there are no significant cost synergies that I am aware of between buying roaming in regional Australia and running a network in the metropolitan areas), and I would expect the prices of services which offered coverage only in the oligopoly area to remain unchanged too. As explained earlier, only if Vodafone and Optus were able to withdraw such services and force customers who did not value coverage in regional Australia to nonetheless pay for it would prices be likely to rise. I explained earlier why, given competition in the oligopoly area both between carriers and between MVNOs (who benefit from long term wholesale contracts), it is very unlikely that Vodafone or Optus would be in a position to do this (if they are not already in such a position today). This conclusion applies irrespective of whether the costs of coverage are to be recovered through variable usage-based charges (in which case this group of consumers would simply not use the service outside of the oligopoly area) or through some form of subscription charge (in which case rivals who did not purchase wholesale roaming could undercut Vodafone or Optus). It follows that those consumers in group (d) above who do not value

coverage in regional Australia would be unaffected by the declaration if RAMC were used to set initial wholesale prices (but see below for the second round effects).

139. Vodafone's and Optus' total costs of providing services in the oligopoly, duopoly and monopoly areas combined would, of course, be higher than those of providing services only in the oligopoly area. In that sense only, their costs have increased. Vodafone and Optus could therefore be expected to charge higher retail prices for services which included roaming on the Telstra footprint than those which they already offer and which do not. If the RMAC formula is applied correctly, these prices ought to match Telstra's and Vodafone and Optus would earn a normal return overall (whilst Telstra would still earn the same, excessive, returns as today). Those for whom coverage in regional Australia was an important consideration would now face a greater choice of provider (with the addition of Vodafone as a competitor in the duopoly area and the addition of both Vodafone and Optus in the monopoly area), but they would enjoy no immediate reduction in the price payable for these services. Overall, then, some consumers would enjoy more choice, nobody would be worse off, but prices would remain similar to current levels, above the 'competitive' level and with wholesale prices for domestic roaming above Telstra's relevant costs.

140. The key to the RMAC approach is, however, that the greater choice at the retail level described above will translate into lower retail prices over time as a result of competition. This is because Vodafone and Optus cannot derive commercial benefit from the declaration unless they are able to switch customers away from the Telstra network. To achieve this, they are likely to have to offer retail prices below those offered by Telstra – perhaps substantially below if switching costs are high or consumers need persuading that these firms can now match Telstra's coverage after so many years of being unable to do so. Vodafone and Optus may incur losses in the short run, since their retail prices will be lower but their own network and retail costs may be unchanged and may be no lower than Telstra's. However, the RMAC method gives Vodafone and Optus some assurance that their wholesale roaming costs will also fall as they cut prices – provided Telstra reacts to the loss of customers by cutting its own retail prices as well. Telstra therefore faces the choice of responding to competition by cutting retail prices, which will in turn lower the wholesale prices payable by Vodafone and Optus, or of seeking to keep the wholesale prices at existing levels, but running the risk of losing retail market share to Vodafone and Optus if it does so.

141. The RMAC approach does not allow us to predict how any individual firm will behave under any particular set of circumstances. A firm's commercial and strategic interests are constantly changing, will be affected by other factors that are unaffected by the declaration and will be

influenced by changing consumer expectations as well. The RMAC approach is intended to allow the market to develop through a series of repeat competitive interactions as firms position and reposition themselves to compete for retail customers. One important consideration, not discussed previously, is therefore the rate at which any changes in retail prices will feed back into adjustments to the wholesale price: the longer the delay in that process the slower retail prices are likely to change, the shorter the delay, the more responsive the mechanism is likely to be.

142. Over time, the RMAC approach can be expected to drive retail prices for coverage on the Telstra footprint lower, with this being supported by successive reductions in the underlying wholesale price for domestic roaming. Those consumers who value coverage significantly and who are currently 'captive' to Telstra will see their prices fall, even if they remain customers of Telstra. They will also have a credible option of switching to Vodafone or Optus, both of whom are likely to offer pricing discounts relative to Telstra to induce them to do so. Those consumers who take advantage of that opportunity will see their prices fall further still.

143. In addition, there may now be a group of consumers who previously valued coverage but could not afford the prices Telstra charged, or who decided to forgo coverage for a lower price tariff on Vodafone or Optus. The former group will now find that coverage in regional Australia is available to them at a lower price than before, and may choose to take it. But they will do so only if they are made better off as a result. The latter group may still prefer a lower price to better coverage, but since the price of better coverage has fallen (including for Telstra), Vodafone and Optus (and MVNOs) may now come under pressure to lower the price of coverage in the oligopoly area only as well. These consumers may pay a lower price as well, even if the nature of the service that they buy remains unchanged. Finally, the group of consumers who remain uninterested in coverage will, again, remain unaffected by the changes to retail prices (save to the extent that Vodafone and Optus are unable to discriminate between these and those marginal customers for whom coverage and price can be traded off, in which case they may also benefit from any reduction in the price of tariffs offering coverage only in the oligopoly area).

144. Overall, therefore, the second round effect of RMAC is that wholesale prices for domestic roaming will fall, and that this will both follow and support reductions in retail prices, both for services aimed at those who value coverage in regional Australia and, in consequence, for those who do not. As is generally the case in competitive markets, those marginal consumers who are more willing or able to switch are likely to benefit more from these developments than those who do not, but almost all consumers are likely to benefit to some degree. Those who find themselves paying more because they switch from a service which offered coverage only in the oligopoly

area to one which offers coverage across the entire Telstra footprint will only do so if they derive extra benefits from doing so.

145. There is then, of course, likely to be a third and fourth and fifth round effect as there are further competitive interactions between Telstra and its various retail rivals. An important feature of the RMAC approach is that it provides no guarantee that wholesale prices for domestic roaming will be driven to 'cost', however defined, or that Telstra would acquire particularly strong incentives to reduce costs or otherwise improve the efficiency of its network in monopoly areas. Vodafone and Optus will have strong incentives to bid retail prices down to a level at which Telstra can no longer extract excessive rents from its wholesale prices, whilst Telstra has strong incentives in the opposite direction. I have noted that there are risks of strategic conduct and 'overshoot' in either direction, and an RMAC pricing principle might include appropriate safeguards to avoid this. It is likely, however, that the outcome will be a market in which retail prices are both lower and more closely aligned to the costs of providing network coverage than is the case today. All groups of consumers would be unambiguously better off in such circumstances.

146. A similar, but slightly different, analysis applies if the 'cost plus' approach were instead adopted to the setting of prices. In this case, the price of wholesale roaming does not change dynamically as retail prices evolve, but is instead imposed on the market by the regulator at the outset. I would therefore expect this price to be lower than the initial wholesale price derived under RMAC (and to include incentives for Telstra to improve its network efficiency), although the precise level will depend on the methodology adopted and the objectives which the regulator is seeking to pursue when computing costs.

147. The wholesale roaming price under a 'cost plus' approach will still be higher than the average network cost which Vodafone and Optus currently face when providing coverage in the oligopoly area<sup>37</sup>. That is because, as explained earlier, the unit costs (whether per site, per subscriber or per unit of traffic or some other basis) will be higher than the average in the duopoly and monopoly areas. Thus, Vodafone and Optus' retail prices for services which include coverage across the Telstra footprint will be higher than the prices they charge today for services which exclude that coverage (although they are also likely to be substantially lower than the price charged by Telstra today for an equivalent service). Once again, those consumers who value coverage in regional Australia will be unambiguously better off, since they can now switch to Vodafone and Optus,

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<sup>37</sup> This is the case whether roaming charges are recovered on a usage basis or through a fixed subscription charge, or a combination of the two. A combination of the two most closely reflects the cost structure which Vodafone and Optus will themselves face in providing services in the oligopoly area.

both of whom will price below Telstra in order to gain customers. Those who do not switch will also be better off as Telstra responds to the competition by reducing its own prices.

148. Although it is possible that retail prices would fall faster, and potentially further, under the 'cost plus' approach, relative to RMAC, this is by no means assured. The rate at which prices fall is determined by the nature of the retail market structure, demand conditions and the resulting competitive interactions between the firms as well as the input costs which some of those firms face. In other words, even if Vodafone and Optus enjoy lower wholesale input costs under the 'cost plus' approach (which is likely in the near term but not otherwise assured in the longer term<sup>38</sup>), it does not follow that they would choose to pass on those lower costs to retail consumers, either immediately or in full. Vodafone and Optus' prices are instead likely to be primarily determined by the extent to which they need to discount against Telstra to persuade those customers who have previously been 'captive' to Telstra to switch. If Vodafone and Optus can induce customers to switch whilst still retaining some of the 'excess' retail margin which Telstra had previously enjoyed, then they ought to do so. Over time, we would expect competition to drive retail prices closer to input costs, but the rate at which this happens is difficult to predict and will depend on the same commercial and strategic factors which make it difficult to predict how the RMAC mechanism would operate in practice<sup>39</sup>.

149. The key difference between the RMAC and 'cost plus' approaches need not, therefore, be the rate at which retail prices fall, or the level to which they fall. Rather, the difference relates to who captures rents if prices do remain above cost. The 'cost plus' approach prevents Telstra from capturing any excessive rents through the wholesale prices which it charges other carriers for roaming. To the extent that Telstra continues to earn such rents, it must do so by charging retail prices which exceed its costs. And, to the extent that Telstra is able to do this, it is likely that Vodafone and Optus will also be able to do the same and to capture some of those rents for themselves. Any 'excess rents' are earned in the retail market, whilst Telstra's returns from the wholesale provision of services ought to be limited to its cost of provision.

150. The RMAC approach is, in contrast, likely to make it more difficult for Vodafone and Optus to capture rents from excessive retail margins, since they would be likely to be uncompetitive relative to Telstra if they did so. However, Telstra may still be able to sustain wholesale prices

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<sup>38</sup> The input cost under RMAC is derived from the retail pricing behaviour of the firms rather than being set by the regulator. It is therefore difficult to predict and could be either above or below a 'cost plus' price.

<sup>39</sup> For example, it might be argued that Vodafone and Optus would be inclined to reduce prices faster if they had greater retail margins available to them under the 'cost plus' approach, but they may equally be less sensitive to the level of retail prices under RMAC (where their retail margins remain constant) and so more inclined to reduce prices in those circumstances. The overall impact on prices of each approach is thus difficult to determine.

under the RMAC approach that are above its costs of provision, in which case it will continue to enjoy returns in excess its costs in the wholesale market, at least for a period.

151. In general, how rents are distributed between firms (as opposed to the distribution of rents between firms as a whole and consumers as a whole) ought not to be a primary concern for a regulator when adjudicating between the different pricing approaches. However, in this case, I would expect that the question of who captures rents to be highly relevant to any consideration of Telstra's investment incentives. I understand Vodafone has sought views from another expert on such investment related questions.

#### *Conclusions on the setting of prices for domestic roaming*

152. In this section I have discussed the various options which I think the ACCC has available to it when considering how it might adopt pricing principles for a domestic roaming service. My conclusions on the various points are as follows:

- a. There is to some extent a trade off to be made between the scope of the declaration, both in geographic terms and in terms of the technologies to which it applies, and the pricing principle which is applied. Simply put, the greater the geographic and technological scope, the greater the risks of inefficiency if prices are set incorrectly but, equally, the greater the potential competitive benefits that arise from the greater scope of competition. I explained this point in the second section of this report.
- b. In my view, the more important task is to define the geographic scope broadly so that it includes both the monopoly and duopoly areas. My view is that it is not advisable to exclude particular technologies from the scope of the declaration when competition over these very technologies is likely to be highly beneficial to the long term interests of consumers. Excluding them would substantially undermine the intent of any declaration.
- c. On this basis, I think the ACCC should define the geographic scope of the declaration broadly but that it should apply only to the provision of domestic roaming services by Telstra within the monopoly and duopoly areas. I see no benefit, and significant cost and complexity, in requiring Optus (or Vodafone) to provide domestic roaming on regulated terms on its network (although it would of course remain free to do so on commercial terms if it chose).
- d. A substantial proportion of the potential consumer benefits to be obtained from a declaration of domestic roaming in Australia will, in my view, be obtained by getting the

scope right. The additional benefits which might be obtained by adopting one pricing approach rather than another are likely, in my view, to be more modest in comparison. Claims about the risks of adopting one pricing rule rather than another are also likely to be overstated, largely because any regulated roaming revenues are likely to remain a small proportion of Telstra's total revenues and because the opportunities for significant additional network investments on Telstra's part (at least without Government subsidy) appear to me to be limited. I would also be unconcerned about trying to set prices to encourage additional investment on the part of Vodafone or Optus, since I think the prospects for this are likely to be low and it is difficult in any event to provide appropriate signals when prices are set on an aggregated basis so as to reflect average costs across a large geographic footprint, most of which will never be replicated.

- e. I would favour the use of the RMAC approach in the setting of domestic roaming prices, and to recover the charges as a per customer 'access fee' (with appropriate usage-based or 'overage' charges if certain usage limits are exceeded). Both the RMAC and the 'cost plus' approaches are, in my view, likely to result in lower prices for most groups of customers, and the rate at which, and extent to which, this occurs will depend upon the competitive dynamics of the retail market as much as the input prices of the firms. The main difference between RMAC and 'cost plus' relates instead to which firm captures any rents, and in which market those rents are earned. If prices remain above competitive levels. Under RMAC, Telstra is more likely to retain the majority of any rents that remain as prices adjust, which means less risk of an adverse financial shock for Telstra and its investors.

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](http://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/>

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“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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“Mobile mergers”, Institute of Telecoms Professionals Journal, forthcoming

“How will the virtualisation of networks impact telecoms operators and vendors”, Policy Tracker, 15 November 2016 at <http://www.policytracker.com/news>