AlixPartners

**PUBLIC VERSION**

# Assessment of the application for merger authorisation by Telstra and TPG

Expert economic report of Matt Hunt

Prepared at the request of Optus

25 October 2022

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# Appendices

# 1 Introduction

## 1.1 My instructions

1 I have been instructed to prepare this report by Herbert Smith Freehills ("**HSF**"), solicitors (together with MinterEllison) for Singtel Optus Pty Ltd ("**Optus**"), in connection with the Australian Competition and Consumer Commission's ("**ACCC**") review of the proposed infrastructure and spectrum sharing arrangements between TPG Telecom Limited ("**TPG**") and Telstra Corporation Limited ("**Telstra**") (the "**Proposed Transaction**").

2 I have been instructed by HSF to give my independent expert opinion on the following matters:

(a) The appropriate economic framework and considerations relevant to assessing the likely competition and efficiency effects of the Proposed Transaction.

(b) Having regard to that economic framework and those considerations, the likely effect, if any, of the Proposed Transaction on competition and efficiency.

3 In addressing these questions, I have been instructed to consider and provide my view on the matters raised in:

(a) the ACCC's Statement of Preliminary Views dated 30 September 2022;

(b) the public versions of the expert reports of Mr Richard Feasey dated 20 May 2022 and 25 July 2022; and

(c) the public version of the expert report of Dr Jorge Padilla dated 26 July 2022.

4 I have attached HSF's letter of instructions at Appendix A1.

## 1.2 Credentials

5 My name is Matthew (Matt) Hunt. I am an economist and a Managing Director in the Investigations, Disputes and Risk practice in the London office at AlixPartners UK LLP, which is located at 6 New Street Square, London EC4A 3BF, United Kingdom. I have 22 years of experience acting as an expert and economic advisor in the fields of regulation and competition policy across a range of sectors. I lead AlixPartners' EMEA economics practice and the economics work in the telecommunications (hereafter, telecoms), media and technology sectors.

6 I have acted as an economic expert in many litigation and disputes cases. In particular, I have submitted expert reports in proceedings in the English High Court, Irish High Court, the UK Competition Appeal Tribunal ("**CAT**") and the Hong Kong Telecommunications (Competition Provisions) Appeal Board and testified as an expert witness before the English High Court and CAT. I frequently submit expert reports to regulatory authorities and competition authorities and have given oral evidence in numerous meetings and hearings with these authorities, including the European Commission ("**EC**"), the UK and Irish communications regulators (Ofcom and ComReg) and the UK Competition and Markets Authority ("**CMA**").

7 I have extensive experience of the mobile telecoms sector. I started my career (after academia), working for Analysys Mason, which was then a largely telecoms-focused management consultancy. In my time at Analysys Mason I worked on numerous regulatory and business

strategy matters, many for mobile operators and for national regulatory authorities, which included issues such as building cost models of mobile networks in a regulatory context. I have continued to work on fixed and mobile telecoms matters since that time, although in the last 17 years my focus has largely been on competition issues in the sector.

8 I have advised clients on numerous mergers and have particular experience in the telecoms sector, including having advised on:[1]

(a) The merger between Virgin Media, the UK's second largest fixed telecoms provider, and O2, the UK's leading mobile network operator at that time, to create a company reported to be worth £31.4 billion, which was cleared by the CMA in 2021 following a Phase II review.

(b) The acquisition by Telia, the largest Swedish fixed telecoms provider (with operations in Denmark, Estonia, Finland, Lithuania and Norway), of Bonnier Broadcasting, a major Swedish broadcaster (primarily with operations in Sweden and Finland), for SEK 9.2 billion (more than £700 million), which was cleared by the European Commission in 2019 following a Phase II Review.

(c) The acquisition by Three, the UK's fourth largest mobile operator, of O2, at that time the UK's second largest mobile operator, for £10.3 billion, which was blocked by the EC in 2016 following a Phase II Review.

(d) The acquisition by BT, the UK's largest fixed telecoms provider, of EE, the UK's largest mobile network operator at that time, for £12.5 billion, which was cleared by the CMA in 2016 following a Phase II review.

9 Of particular relevance to the current matter, I advised EE on the network sharing theories of harm in relation to the Three/O2 UK merger mentioned above and I am also currently advising a telecoms operator regarding network sharing issues in relation to another merger.

10 My qualifications include a Masters of Economics (MSc - Distinction) from the London School of Economics and Political Science, a Postgraduate Certificate in Economics, Birkbeck College, University of London, (Distinction) and a Masters of Physics (MPhys – First Class) from the University of Oxford.

11 I have attached my CV at Appendix A4.

## 1.3 Documents relied upon

12 Where I rely on a material fact in order to reach an opinion expressed in this report, the material fact has been drawn from the documents referred to in Appendix A5.

## 1.4 Preparation of this report and acknowledgement of my duty as an expert

13 I confirm that I have read the Federal Court's Expert Evidence Note and the Harmonised Expert Witness Code of Conduct, which are attached to my letter of instructions, and agree to be bound by them. I have attached the expert evidence practice note in appendix A2.

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[1] For ease, I use the brand names rather than the corporate entity names.

14 In preparing this report, I have been assisted by colleagues at AlixPartners, including Mat Hughes, Federica Grilli, Jules Duberga, Paula Marco Morales and Jonathan Sandbach, the latter an affiliate of AlixPartners.

15 I confirm that all the opinions expressed in this report are my own opinions. My opinions are based wholly or substantially on specialised knowledge arising from my training and study as an economist and my professional experience.

## 1.5 Report structure

16 The remainder of this report is structured as follows:

(a) **Section 2** sets out an executive summary.

(b) **Section 3** explains my understanding of the key facts as regards the Australian mobile telecoms sector, with a particular focus on network infrastructure and its role in wholesale and retail competition.

(c) **Section 4** sets out the market definitions I use for analysing the impact on competition of the Proposed Transaction.

(d) **Section 5** discusses the key market features that are needed in an appropriate economic framework to assess the impact on competition of the Proposed Transaction and consider relevant economic models.

(e) **Section 6** sets out the importance and the implications of economies of scale and spectrum efficiencies for mobile networks in the Regional Coverage Zone ("**RCZ**").

(f) **Section 7** analyses the impact of the Proposed Transaction on Optus' network investment incentives in the RCZ and, consequently, dynamic network competition between operators in relation to infrastructure investments in the RCZ.

(g) **Section 8** considers what would be the most likely counterfactual to the Proposed Transaction and what Optus' and Telstra's incentives to invest in 5G in the RCZ would be in such a scenario.

(h) **Section 9** sets out my views on the competitive effects of the Proposed Transaction.

(i) **Section 10** compares my views on the key elements of the analysis of competitive effects of the Proposed Transaction and those of the Applicants' experts.

(j) **Section 11** provides my overall conclusion and my declaration.

# 2 Executive Summary

17 In this report I assess the impact of the Proposed Transaction on competition in retail and wholesale mobile telecoms markets in Australia.

18 Given the importance of network infrastructure for competition in the mobile sector, I first consider the impact on the network investment incentives of Optus and Telstra in the RCZ.[2] I then consider the implications of that analysis on competitive dynamics in the closely vertically related retail and wholesale mobile telecoms markets. My assessment of competitive effects considers a comparison between the situation if the Proposed Transaction proceeds and a counterfactual in which there is a cooperation agreement between TPG and Optus relating to 5G in the RCZ, which in my view is the most likely counterfactual.

19 As a result of my assessment, I conclude that the Proposed Transaction removes any material competitive constraint from TPG as regards radio access network ("**RAN**") infrastructure in the RCZ, at least during the initial 10-year period of the Proposed Transaction, and possibly up to 20 years (I note that TPG will retain a core network). Further, the Proposed Transaction significantly weakens Optus' incentive to invest in its 5G network in the RCZ, reflecting that the Proposed Transaction is likely to lead to Optus losing subscribers in the RCZ, which will compromise Optus' ability to achieve economies of scale, particularly relative to the counterfactual (in which Optus may also benefit from spectrum efficiencies). The Proposed Transaction therefore undermines the process of dynamic network competition between mobile network operators ("**MNOs**") in the RCZ, significantly softening the competitive constraint from Optus on Telstra, and leading to a substantial reduction in competition between MNOs as regards their RANs in the RCZ. This reduction in competition at the network level [redacted]

20 As Telstra and Optus are dynamically competing as regards network infrastructure in the RCZ, Optus' [redacted] in the RCZ will directly affect Telstra's incentives to invest at the network level. This will substantially weaken competition at the network level in the RCZ, and the impact of that will be felt progressively in the closely vertically related wholesale and retail mobile telecoms markets, over time leading to a substantial lessening of competition in those markets.

## 2.1 Key features of the mobile telecoms sector in Australia

21 I have identified features of the mobile telecoms sector in Australia that I believe are critical to any analysis of the competitive effects of the Proposed Transaction.

22 First, there are economies of scale at the network level, particularly in areas of low population density, which will affect the rollout of 5G in the RCZ. This means that there are productive efficiency gains (i.e. reduced unit costs) that depend on an operator's scale at a point of time, irrespective of dynamic competition between MNOs.

23 Pre-Transaction there has been dynamic competition between Telstra and Optus at the network level, with Telstra responding to network competition from Optus, to the benefit of customers in terms of improved network coverage and capacity. (While my focus in this report is on dynamic

[2] In most cases in this report, where I refer to network, I am referring to the RAN. In a number of places, for the avoidance of doubt, I specifically refer to the RAN.

competition in the RCZ, I understand that there is dynamic competition nationally) Competition at the network level also increases competition for government funding under the Black Spot program.

24 Economies of scale and dynamic competition in network investments interact. The static impact on investment incentives is a much larger effect for smaller operators and expected gains/losses in share of subscribers over time will affect a smaller operator's investment incentives by more than a larger operator. Moreover, more generally, lower costs will have a greater impact on consumer outcomes the greater the level of competition (i.e. competitive intensity increases cost pass-through into greater investment in coverage and capacity and lower prices) and, consequently, economies of scale matter more in the presence of dynamic competition.

25 Second, spectrum is a critical input in mobile markets. Spectrum is not an output, and what thus matters is how spectrum use affects consumer outcomes (e.g. prices and service quality). In the medium term, I would expect spectrum to be more efficiently used if there is strong competition as that drives efficient usage. These considerations strongly influence policy decisions adopted by spectrum management authorities globally that competition should be considered in relation to spectrum awards. In the absence of Telstra facing a strong network competitor in the RCZ, there is a reduced incentive for Telstra to roll out expensive new technologies with greater spectral efficiency.

26 Further, I note that network congestion in the RCZ should not be exaggerated, as it is not across all of Telstra's sites (as appears to be assumed by Dr Padilla). Congestion is an important part of the competitive process, driving Telstra to improves its network, and the fact that there is congestion might, in fact, be a sign that there is insufficient network competition in the RCZ. Congestion can be alleviated in various ways other than through access to TPG's spectrum and with sufficient competition, Telstra would have an incentive to implement network strategies to reduce congestion. In any case, congestion provides incentives to other operators (particularly Optus, which is Telstra's closest competitor) to invest so as to provide a good service in order to win customers from Telstra.

27 Irrespective of the Proposed Transaction, firms (and TPG in particular) may have incentives to trade or lease spectrum where it is most efficient. This decision depends on considering the competitive value of the spectrum to the firm owning it versus the value to other operators in use.

28 Third, vertical differentiation in mobile operators' services is particularly notable in Australia and this key feature of the relevant markets is accepted in many of the expert reports. This means that differences in the perceived quality of MNOs' networks (including their coverage in the RCZ) affect the relative prices they can charge, and Telstra is able to charge higher prices than Optus and (to a greater degree) TPG due to Telstra's superior quality.

29 Fourth, it is important to recognise that network infrastructure and wholesale and retail mobile telecoms markets are closely vertically related. Competition in the supply of both wholesale and retail mobile telecoms services is enabled by the underlying infrastructure, i.e. the mobile networks available to each firm. Therefore, the impact of the Proposed Transaction on competition in network infrastructure (both inside and outside the RCZ) is critical to understand any impact on competition in the relevant markets.

30 Below, I set out my conclusions on the impact of the Proposed Transaction on investment incentives and pricing incentives.

## 2.2 Impact on investment

31 A concern related to the Proposed Transaction is its impact on dynamic network competition between MNOs in relation to infrastructure investments in the RCZ.

32 As a result of the Proposed Transaction, TPG will cease investing in its RAN in the RCZ (although it will retain its own core network). TPG will no longer have any RAN infrastructure in this area, as under the agreement TPG will decommission most of its sites, with up to 169 remaining sites being transferred to Telstra. TPG will be reliant on Telstra's RAN infrastructure in the RCZ and will have limited influence over this crucial dimension of competition – I understand that TPG can request changes to Telstra's RAN, but Telstra retains control over its RAN.

33 As regards Optus' investments in the RCZ, both Dr Padilla and Mr Feasey assume or assert that Optus' incentives to invest will either remain the same or increase under the Proposed Transaction. I do not believe that this can be assumed in the abstract and, in my view, this is not a matter that the Applicants' experts have appropriately addressed. While a firm may wish to become more competitive with a rival by increasing its investments, this strategy will not be pursued if it is not profit maximising.

34 In the context of the Proposed Transaction, [redacted] If the Proposed Transaction proceeds, it is highly likely that TPG will win share from Optus in the RCZ and that, consequently, Telstra's share of subscribers at the network level in the RCZ will increase (due to TPG's closure/transfer of its RCZ sites and due to its share of subscribers growing), with Optus losing economies of scale. This loss of economies of scale [redacted] substantially diminishing competition in the rollout of 5G in the RCZ. The impact of this reduction of infrastructure competition will be felt progressively more over time, ultimately leading to a substantial reduction in competition between MNOs as regards 5G RANs in the RCZ.

35 Furthermore, in a counterfactual where TPG and Optus cooperate to deliver 5G in the RCZ, any agreement with TPG will improve the commercial assessment of a 5G rollout and enable Optus to be more competitive against Telstra as regards network coverage and quality in the RCZ. Optus' scale would increase by virtue of revenues it would receive from TPG and, if spectrum sharing were included, Optus would benefit from spectrum efficiencies. In the counterfactual, Optus' investment incentives as regards the rollout of 5G in the RCZ would therefore increase materially (compared to the prevailing situation pre-Transaction).

36 Telstra's arrangement with TPG can be assessed in terms of whether the loss to Optus of revenues from TPG (that it would receive in the counterfactual) could be considered to be customer foreclosure: if the Proposed Transaction proceeds Optus will face even higher costs due to economies of scale foregone, whereas in the counterfactual it would be a stronger competitor to Telstra as regards RAN infrastructure in the RCZ. Telstra's incentives to invest in the RCZ are in large part driven by network competition from Optus: it is explicitly recognised by the Applicants' experts that Telstra's strategy is one of network leadership over Optus. Since Optus' incentives to invest in the RCZ will be reduced as a result of the Proposed Transaction, the competitive

pressure on Telstra resulting from investments by Optus will decrease. There will be less competitive necessity for investment by Telstra over time [redacted] and reducing investment in the RCZ is likely to be profitable for Telstra (as it avoids incurring the cost of future network upgrades). While Dr Padilla seeks to argue that the Proposed Transaction will provide Telstra with greater incentives to invest in its network due to the greater scale enabled by the Proposed Transaction, this is a static assessment that must be seen in context.

37 In that regard, Optus is likely to be deterred further from investing in the RCZ if it judges it more likely that Telstra can respond competitively to any investments by Optus at lower cost (due to Telstra's higher scale and spectrum efficiencies enabled by the Proposed Transaction) in a way that reduces Optus' returns. If, as a consequence, Optus does not make these investments, this reduces the competitive need for Telstra to make investments [redacted]. It is highly unlikely that the Proposed Transaction will increase Telstra's investment in the RCZ if the competitive stimulus from Optus is substantially reduced, even if Telstra's unit costs for making investments fall.

38 In the counterfactual scenario of a network sharing agreement between Optus and TPG, I would expect that Optus would have reinforced investment incentives. Given the network competition between Telstra and Optus, this would lead to further investment by Telstra – for example, building its own 5G network further and/or faster in order to retain its competitive advantage over Optus/TPG.

39 As regards the counterfactual scenario, I consider that both Optus and TPG have strong incentives to reach a network sharing agreement that would include 5G absent the Proposed Transaction and I therefore consider that such an agreement would be the most likely outcome in absence of the Proposed Transaction. In particular, I believe it is likely that an active network sharing agreement would be reached between TPG and Optus, perhaps with a transitional 5G roaming arrangement in the short term, if that maximises the joint surplus of TPG and Optus and, if the Applicants are correct that there is considerable value in an active network sharing agreement, it seems likely that this would be the case.

40 It is likely that the Proposed Transaction would also have an impact on infrastructure investments outside the RCZ. I consider that the greater closeness of competition between MNOs in the counterfactual, relative to if the Proposed Transaction proceeds, would lead to increased investment outside the RCZ. In the counterfactual there would be three operators that would have access to competitive 5G network infrastructure in the RCZ (which is a key element of MNOs' wholesale and retail service offerings), as Optus would be able to compete more actively thanks to a better network infrastructure, and TPG would have access to such infrastructure. [redacted] The increased competition between MNOs in the counterfactual would provide greater incentives for them to make quality-increasing investments both in the RCZ and outside the RCZ.

## 2.3 Price effects

41 In my view it would be inappropriate to overly focus on short-term price effects resulting from the Proposed Transaction. The most substantial impact of the Proposed Transaction is on infrastructure investments by Optus (and, in turn, Telstra) and the resulting reduction of

infrastructure competition will have a negative impact on consumers [redacted]

42 Competition at the retail and wholesale level is dependent upon the network infrastructure that MNOs (and MVNOs) have access to, and the cost of that network infrastructure. While MNOs compete in retail and wholesale markets on various dimensions, network coverage and quality are critical dimensions of competition and these are dependent upon the MNOs' network investment decisions. Moreover, network costs affect MNOs' retail and wholesale pricing decisions. It is important to see price competition in this context.

43 The Applicants' experts assert that price competition from Optus will not be weakened as a result of the Proposed Transaction. I do not agree with this view as it assumes that Optus' investment incentives will not be affected by the Proposed Transaction, which I find is not the case. In the counterfactual, there would be increased network competition, which would lead to the three MNOs being closer competitors than they would under the Proposed Transaction, where Optus' competitive position will be materially weakened. As a consequence, I believe there would be greater competition between MNOs in retail and wholesale markets and lower quality-adjusted prices in the counterfactual.

44 The Applicants' experts argue that price competition from TPG will be unambiguously greater if the Proposed Transaction proceeds. This is unclear to me as, in the counterfactual, it is likely that TPG would also have access to a network sharing agreement covering 5G in the RCZ. In any event, under the Proposed Transaction competition from TPG may be a less important factor than competition from Optus for determining the level of prices: even if TPG's competitiveness improves under the Proposed Transaction, it is a smaller rival nationally than Optus [redacted] Weakening Telstra's closest rival (Optus) can be expected to have a greater anticompetitive effect – [redacted] this will affect its ability to compete, including on price.

45 In addition:

(a) the extent to which TPG will be competitive will depend on the wholesale terms it has agreed with Telstra (which I'm not aware of);

(b) TPG will be wholly dependent on Telstra [redacted]; and

(c) TPG's bargaining power to renegotiate its network sharing arrangements with Telstra will likely be limited (if its outside options are poor), and this may impact TPG's ability to compete over time (e.g. as regards new technologies or price/cost changes). Telstra may have limited incentivises to agree to TPG requests to change the agreement.

The above considerations may mute TPG's incentives to compete actively against Telstra over time.

46 On the other hand, in the counterfactual of a network sharing arrangement between TPG and Optus, Optus will have incentives to make 5G investments in the RCZ further and faster, and TPG and Optus will both benefit from winning share off Telstra, the market leader with around 70%

share in the RCZ. In that scenario, there will be three competing MNOs with access to material 5G infrastructure in the RCZ. Therefore, in the counterfactual I would expect price competition to be more effective, as regards both wholesale and retail mobile telecoms markets.

## 2.4 Efficiencies

47 Dr Padilla argues that the Proposed Transaction will yield various efficiencies associated with Telstra gaining access to TPG's spectrum in the RCZ and more remote areas, access to some of TPG's sites (up to 169), and additional revenues from TPG (which in the counterfactual would be received by Optus). I consider that these claimed efficiencies are largely either not specific to the Proposed Transaction, overstated or actually a source of anticompetitive harm.

## 2.5 Overall impact on competition

48 In my view, the Proposed Transaction will lead to a substantial lessening of competition. This results from the significant weakening of dynamic competition at the network level in the RCZ, and, over time, will result in a materially less competitive outcomes in retail and wholesale mobile telecoms markets. This is both because Optus will be a weaker competitor in retail and mobile markets and because all operators will have lower quality networks due to the weakening of dynamic competition. As regards the latter point, [redacted] this will materially reduce the competitive imperative on Telstra to maintain and improve its network.

# 3 The Australian mobile telecoms sector

49 In this section, I set out my understanding of the key facts as regards competition in the Australian mobile telecoms sector, with a particular focus on network infrastructure and the role of network infrastructure in determining wholesale and retail competition.

50 My conclusion based upon reviewing those facts is that:

(a) there has been significant competition at the infrastructure level in Australia (see §72 below);

(b) investments in infrastructure enable MNOs to compete on price and multiple dimensions of quality (see §73 below); and

(c) MNOs are currently competing on parameters including the quality and extent of 5G network availability (see §73 and §96 below).

51 I believe this aligns with the description of the key drivers of competition in the Statement of Preliminary Views ("SoPV").[3]

52 In addition, I conclude that Telstra has a significant inherent advantage in rolling out 5G networks in Australia given:

(a) Telstra's much more extensive existing network in regional areas (see §65 below);

(b) Telstra's much higher share of subscribers nationally and, specifically, its very high share of subscribers in regional areas (see §60 and §92 below); and

(c) the high fixed costs of rolling out 5G mobile networks in rural parts of Australia, which means that there are considerable economies of scale (see §79 and §§81-82 below).

53 Telstra's advantage is compounded by:

(a) the higher costs to Optus and TPG from rolling out 5G in the RCZ, given their need to remove 4G Huawei equipment when they do so (see §81(a) below); and

(b) Telstra's significant first-mover advantage in relation to 5G rollout, as highlighted in the SoPV (see §78 below).[4]

54 While my analysis of the impact on competition necessarily focuses on the RCZ, as that is the geographic scope of the Proposed Transaction, some of the data sources I refer to consider "regional areas" or "80+% coverage areas" instead of the RCZ. While these terms are not synonymous, in most cases analysis related to regional areas or 80+% coverage areas is broadly

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3 In the words of the ACCC, 30 September 2022, SoPV, §3.7, *"Competition in the supply of both retail and wholesale mobile services is enabled and driven by the underlying infrastructure of the mobile networks. MNOs strive to win or maintain market share by rolling out new coverage, densifying their network in existing areas, and upgrading to newer technologies. These investments enable MNOs to compete on coverage, network reliability, speed, price, and plan inclusions".*

4 SoPV, §§3.47-3.48.

applicable to the RCZ. I use these terms interchangeably, apart from where the difference between them matters, and in those instances I make it clear.

## 3.1 Retail and wholesale mobile telecoms services in Australia

55 I first describe the structure of the mobile telecoms landscape in Australia and then consider how this has driven competitive outcomes to date.

### *3.1.1 An overview of the key market participants and how shares of subscribers have developed over time nationally*

56 There are three MNOs in Australia (Telstra, Optus, and TPG). Each of the MNOs sells retail and wholesale mobile services nationally. Each maintains a RAN (which consists of mobile base stations that communicate with customers' mobile devices), a backhaul transmission network and a core network.[5]

57 There are also a number of MVNOs, which provide retail competition without owning their own mobile networks as they have wholesale access to MNOs' networks. Similar to other mobile telecoms markets, MVNOs in Australia have differing levels of their own commercial and technical capabilities.[6] All MVNOs are limited in their ability to compete with MNOs because they are constrained by the terms in their wholesale access contracts with MNOs, which will typically include which of an MNO's different technologies are available to the MVNO as well as the charges levied (which will typically include volume related charges).[7]

58 The MNOs operate a number of sub-brands which enable the MNOs to target different customer groups. For example, Telstra operates the Belong and Boost Mobile brands,[8] Optus operates the amaysim and GOMO brands and TPG operates the Lebara, Kogan Mobile, Felix and TPG Mobile brands.[9] These sub-brands are not independent of the MNOs and so are included in the retail shares of subscribers of the MNOs.

59 As shown in Figure 3-1 and Figure 3-2 below, Telstra has consistently had the highest shares of subscribers at the network level (i.e. including MVNOs' subscribers which use Telstra's network) and the retail level, with its share having increased since 2010.

60 In terms of national share of subscribers at the network level, Telstra's share has increased to 53% by December 2021. Optus is the second largest MNO, with a share of subscribers of 32% as at December 2021, which has been broadly stable over time. TPG is the smallest MNO with a share that has fallen over time to 16% as at December 2021.

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5 *Vodafone v ACCC* [2020] FCA 117, 13 February 2020 ("VHA v ACCC"), §85.

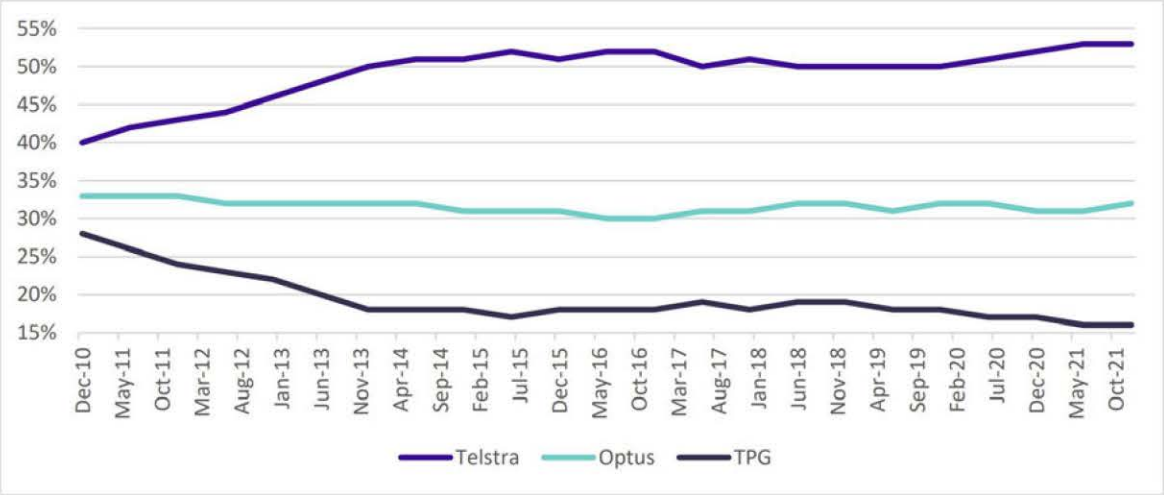
6 SoPV, §2.4.

7 VHA v ACCC, §126.

8 VHA v ACCC, §109.

9 VHA v ACCC, §97. See also ACCC, December 2021, Communications Market Report 2020-21, p 8. ("ACCC Communications Market Report 2021")

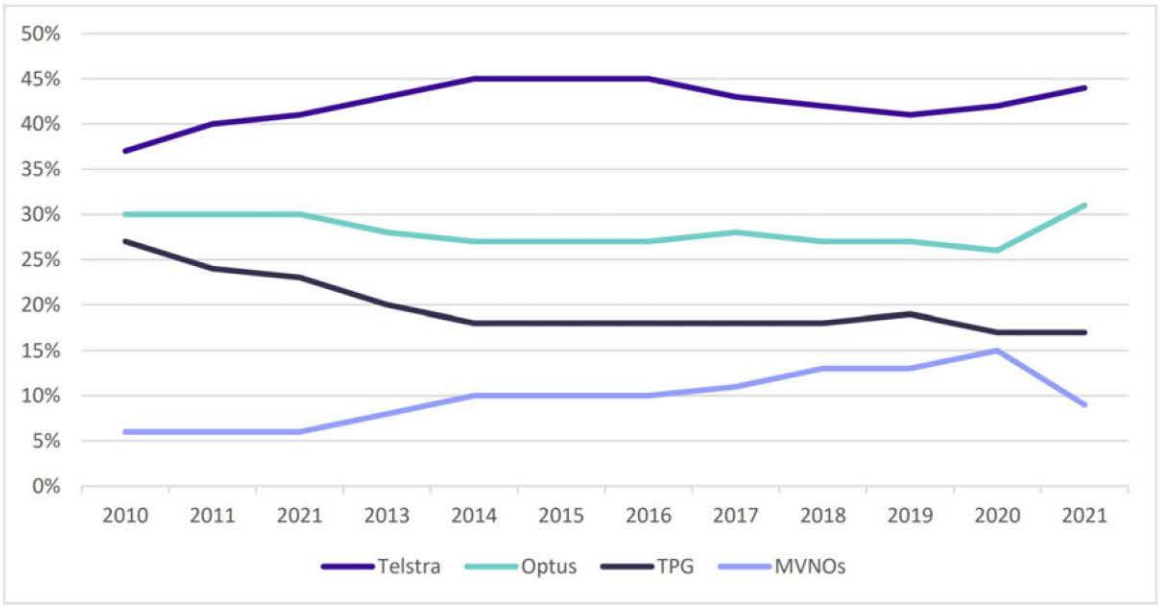
**Figure 3-1. National share of subscribers at the network level by MNO[10]**




Source: Optus' submission to ACCC (Confidential version), 27 June 2022, p 19 (Optus indicates that these figures are based on company annual reports, including all mobile services in operation and excluding internet of things services).

61 Broadly similar trends can be observed at the retail level. As Figure 3-2 illustrates, there is a notable decline in MVNOs' share of subscribers in 2021, which has now fallen to 9%. This was largely due to MVNOs being acquired by MNOs. For example, the corresponding increase in Optus' share in 2021 relates to its acquisition of amaysim.[11]

**Figure 3-2. National share of subscribers at the retail level**




Source: ACCC Communications Market report 2020-21, p 28.

10 'TPG' here includes Vodafone Hutchison Australia prior to its merger with TPG Telecom in 2020.

11 ACCC Communications Market Report 2021, p 8.

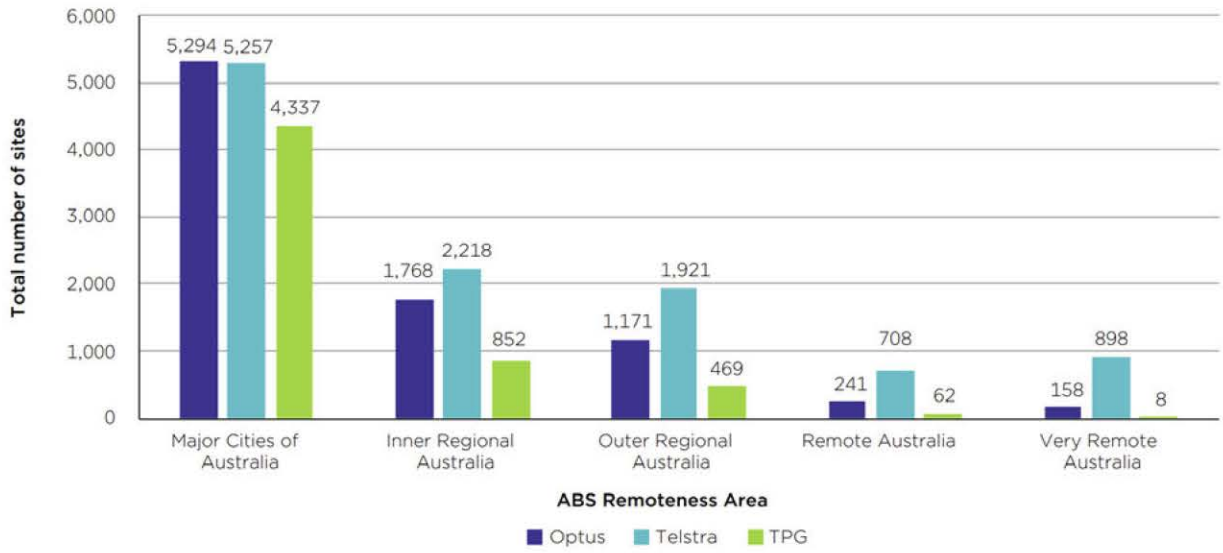
### 3.1.2 *Overview of the mobile network infrastructure*

62 Competition in the supply of both wholesale and retail mobile services is enabled by the underlying infrastructure of the mobile networks,[12] and I therefore start with an overview of the infrastructure.

63 Telstra operates more than 11,000 mobile base stations nationally, covering over 2.6 million square kilometres, and its network has 99.5% population coverage.[13] Optus' coverage footprint is approximately 1.3 million square kilometres, reaching around 98.5% of Australia's population.[14] TPG confirmed its position as the third MNO after its merger with Vodafone Hutchison Australia in 2020, and it operates more than 5,600 mobile base stations nationally. TPG's footprint covers around 0.6 million square kilometres, and its current network has 96% population coverage.[15]

64 The total number of sites by MNO within each of the categories of ABS remoteness is set out in Figure 3-3 below.

**Figure 3-3. Total number of sites by MNO & ABS Remoteness Area - 2022**




Source: ACCC Mobile Infrastructure Report 2022, September 2022, Figure 4.1.

65 Within the area covered by the Proposed Transaction, the RCZ, (which I understand does not exactly map on to the ABS Remoteness Areas), Telstra, Optus and TPG currently operate approximately 3,700, 2,500 and 725 sites respectively.[16]

### 3.1.3 *Mobile networks*

66 MNOs' RANs use cell sites to transmit information to and from mobile devices using electromagnetic spectrum. In Australia, common to other countries, users care about factors

12 As recognised in the SoPV, §3.7.
13 SoPV, §2.1. See also Witness statement of Benjamin White (Confidential version), 19 October 2022, §16. ("Witness Statement of Benjamin White")
14 SoPV, §2.3. See also Witness Statement of Benjamin White, §16.
15 SoPV, §2.2. See also Witness Statement of Benjamin White, §16.
16 SoPV, §§2.1-2.3.

including the coverage and quality of networks.[17] Mobile operators consequently need to consider both the coverage and quality/capacity of their networks from a user perspective.[18,19]

67 The capacity of a mobile network depends on parameters including the product of the number of cell sites, the amount of spectrum that is used on each site and the efficiency of the different mobile technologies employed at each frequency range. In this regard:

(a) MNOs build or rent and manage passive infrastructure (e.g. towers) and active infrastructure (e.g. network equipment) as part of their networks.

(b) MNOs use different spectrum frequency bands to supply mobile services, often classified into three categories – low-band, mid-band and high-band. Lower frequency spectrum propagates further and is used to provide wider network coverage (including in-building coverage), whereas higher frequency bands are used to provide capacity in more localised areas.[20]

(c) MNOs choose whether to deploy 3G, 4G or 5G technologies at different frequency bands. Each generation of technology is more spectrally efficient than the previous one.[21] All other things equal, to provide higher capacity in a network it is better to use the latest generation of mobile technology. However, MNOs need to match the technologies deployed on their networks with the devices that their customers use, and thus (for example) an MNO is more likely to switch spectrum to 5G technology as customers buy 5G-enabled mobile phones.

68 When an MNO wishes to increase geographic coverage, it typically builds/rents additional sites and enables low frequency spectrum on those sites to cover as wide an area as possible.[22] In contrast, when an MNO wants to increase its capacity, as there are a number of factors that influence the capacity available in a particular location, the MNO has different options including:

(a) cell splitting (creating or building sectors in sites to increase capacity);[23]

(b) building additional sites;[24]

(c) adding additional equipment or software to enable additional spectrum ranges;[25] and

(d) changing the technology deployed at each frequency.[26]

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17 See, for example, Witness statement of Kanagaratnam Lambotharan (Confidential version), 18 October 2022, §23. ("Witness Statement of Kanagaratnam Lambotharan") [redacted]

18 This is set out at §§88-91 of VHA v ACCC. I refer to network quality, by which I mean the quality that is perceived by consumers (such as network throughput and latency, etc). Network quality in a particular location is primarily a function of the available network capacity and the number of users on the network. The capacity is shared between different mobile users.

19 See also Witness Statement of Benjamin White, §16, where Mr White states that perceptions of network coverage and performance are very important aspects of competition for mobile customers.

20 ACCC, September 2022, Mobile Infrastructure Report, p 17. ("ACCC Mobile Infrastructure Report 2022")

21 Second expert report of Dr Chris Doyle (CEPA) (Public version), 26 September 2022, Figure 3.1. ("Doyle")

22 See Doyle, §57, stating that "*low-band frequencies (sub-1 GHz) enable wider geographic coverage*".

23 See, for example, Doyle §103.

24 See, for example, Doyle §101.

25 See, for example, Witness Statement of Benjamin White, §14(c).

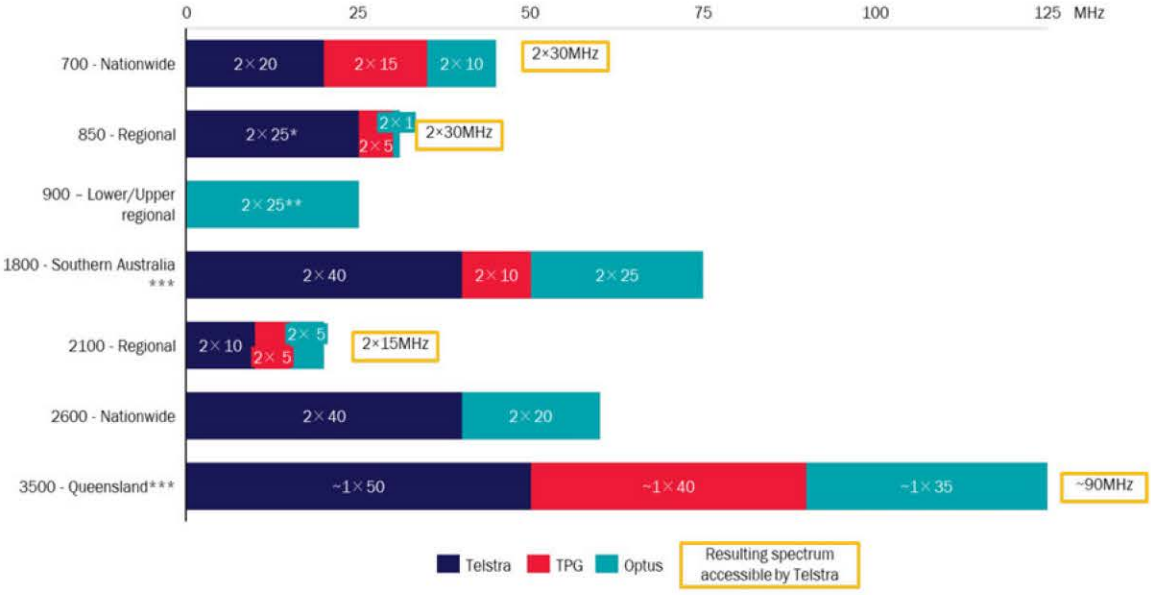
26 See, for example, Doyle §§102-104.

69 The suitability and attractiveness of the different options to increase coverage will depend on a range of technical and commercial factors (for example, the legacy technology that is already deployed on sites).

70 As shown in Figure 3-3 above, Telstra has many more sites than the other MNOs in regional and remote areas. This evidently explains why Telstra's population coverage is higher than Optus' and TPG's population coverage. The number of Telstra sites also has significant implications for the capacity of the network and the quality experienced by end users.[27] In major cities of Australia, Telstra's number of sites is much more comparable to Optus', while TPG has significantly fewer sites.

71 The MNOs compete for spectrum licences to enable them to provide additional capacity, and for the purposes of rolling out new technologies.[28] As shown in Figure 3-4 below, Telstra currently holds significantly more spectrum than Optus in regional and rural areas and more than TPG in all areas. Optus holds more spectrum than Telstra and TPG in several major metropolitan areas.[29]

**Figure 3-4. Main spectrum distribution amongst MNOs**




Source: Analysis Mason based on TeleGeography, ACMA Register of Radiocommunications Licences, 2022 (Figure 4.2 of Analysis Mason's report).

Notes: * of which 2x10 MHz only available in 2024; ** only available in 2021; *** Representative regional allocation, other regions have different spectrum allocations.

27 See also Witness Statement of Benjamin White, §15. Mr White considers that a higher share of sites implies a higher relative site density and an improved network experience for customers.

28 A benefit of rolling out technology on a new frequency range is that the spectrum is free from existing users.

29 Analysis Mason, 27 June 2022, "*The ACCC's consideration of the Telstra–TPG agreement*", Figure 4.2. ("Analysys Mason 1"). See CEPA, 24 June 2022, "*Competition impacts of the proposed Telstra-TPG network and spectrum sharing agreements*", Figure 1.1, for spectrum holdings in the RCZ. ("CEPA report")

### 3.1.4 *Investment in mobile networks in regional and rural areas*

72 While the RCZ accounts for areas in which only 17% of the Australian population resides, infrastructure competition in these areas is important:

(a) Coverage is particularly valuable to customers living in rural and regional areas. This is confirmed by [redacted][30] as well as by the Applicants' experts. Dr Padilla's report provides the results of a survey conducted by TPG in May 2022, which provides evidence on this point.[31,32]

(b) In addition, and as also emphasised by the ACCC in its SoPV and by the Applicants' experts, regional and remote coverage is valued by customers who live in metropolitan areas.[33, 34]

73 Given the value to customers of regional coverage, MNOs are incentivised to invest in network development in regional areas in order to maintain and improve their network coverage and quality offering.[35] As further covered below, this is reflected in MNOs making strategic investments in relatively less populated areas such as the RCZ not only to capture market share in those territories, but to retain existing share and win new share in more urbanised areas outside the RCZ, where network coverage is already available. Furthermore, MNOs' national prices vary materially reflecting customers' perception of their network coverage and quality.[36,37] If investments in improvements in network coverage and quality enable MNOs to charge more, this provides an additional stimulus for investment.

### 3.1.5 *The challenge of investing in mobile networks in Australia and Telstra's first-mover advantage*

74 Expanding coverage and improving quality of mobile networks is highly capital intensive.[38] In Australia, there is a particular challenge of covering a huge geographical area with very low population density. This has been recognised by the ACCC: "*The low population density and large size of regional Australia mean that mobile network operators (MNOs) must incur significant costs to extend population coverage by a small amount in regional areas*".[39]

75 The ACCC understands well the challenges for mobile operators investing in more remote areas.

> "*In areas of high population density, such as metropolitan and large regional centres, there tends to be stronger infrastructure-based competition between the three MNOs. This is because the higher level of population density in these areas means there is likely to be more network usage over which the fixed costs of providing coverage can be recovered.*

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30 See [redacted]

31 Expert report of Dr Jorge Padilla (Compass Lexecon) (Public version), 26 July 2022. ("**Padilla**")

32 While Dr Padilla's report does not directly say that regional and rural customers value regional and rural coverage, I assume that is this case.

33 See e.g. SoPV, §3.14.

34 See also the Witness Statement of Benjamin White, §18.

35 SoPV, §3.13.

36 See, for example, Padilla, §3.37 as regards Telstra.

37 See Witness Statement of Benjamin White, §14(b), where Mr White considers that willingness to pay is proportional to network performance.

38 VHA v ACCC, §86. See also Witness Statement of Kanagaratnam Lambotharan, §21; and Witness Statement of Benjamin White, §§20-21.

39 ACCC, October 2017, "*Domestic mobile roaming declaration inquiry, Final report*", p 5 ("**Domestic mobile roaming declaration inquiry**").

> *This enables an MNO to reach minimum efficient scale – and therefore be profitable – at a lower share of mobile consumption made in these areas. However, in areas of low population density, particularly regional and remote areas, investment to extend coverage is less likely to be profitable for multiple network operators. There are fewer customers and to some degree, their needs for more contiguous coverage over greater areas are higher. This has meant that there tends to be less infrastructure-based competition in these regions, and consumers can generally only obtain reliable mobile services from either one, or in some areas, two network operators."*[40] [My emphasis]

76 Although some of the above difficulties are common to all MNOs in Australia, Telstra has material advantages relative to Optus and TPG, which have enabled it to maintain its network leadership and more easily address the investment challenges.

77 Telstra historically had a material coverage advantage in regional and rural areas compared to other MNOs including through a largely Government funded programme to invest in a Code Division Multiple Access ("**CDMA**") regional network.[41] Telstra has maintained that coverage advantage by rolling out 4G further and faster than other MNOs.[42] Consistent with the figures at §63 above, Telstra maintains a material coverage advantage.

78 Telstra's incumbency advantage has been further compounded as Telstra has received most government contribution funding, which is aimed at incentivising MNOs to deploy network infrastructure in regional and remote areas, which have high costs of network deployment.[43] The ACCC observed that "*as at 31 January 2020 and 31 January 2021, Telstra had deployed 629 and 735 sites respectively with the assistance of funding from this co-contribution program. This is significantly more co-funded sites than Optus (93 and 126) and TPG (60 and 60) combined*".[44,45] I understand that the reason for this includes that, given Telstra's high share of subscribers, higher prices than other MNOs, and existing high levels of coverage, the value to Telstra of additional coverage is greater than for other MNOs and, consequently, the government contributions required to make additional coverage profitable are lower. As the government seeks value for money from its contributions, Telstra receives most funding. Telstra is committed to

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40 Domestic mobile roaming declaration inquiry, p 6.

41 Optus' submission to ACCC, 27 June 2022, §3.54 and footnote 42. ("**Optus' submission**")

42 Optus' submission, §3.56.

43 ACCC Mobile Infrastructure Report 2022. The ACCC explains on p 5 that "*co-contribution funding is likely a key driver for MNOs when considering expanding mobile coverage*" in regional and remote areas. "*Local, state and federal governments have developed co-contribution programs to provide subsidies to network operators in infrastructure deployment in these areas*". The ACCC reports on p 13 the number of new sites that are co-funded by MNO, highlighting that a lot more Telstra sites were co-founded than Optus sites in 2021 and 2022.

44 ACCC, December 2021, Mobile Infrastructure Report, p 12.

45 See Australian Government, December 2021, "*2021 Regional Telecommunications Review: A step change in demand*", p 44. ("*2021 Regional Telecommunications Review*") Under the Mobile Black Spot Program to date, the Government's commitment has generated a total investment of more than $875 million, to deliver more than 1,270 new mobile base stations across Australia. See also Telstra, 30 September 2021, "*Response to the Regional Telecommunications Review 2021 Issues Paper*", p 10, stating that once the Program is completed, Telstra considers that it will have invested approximately $300 million and built around 930 new sites to improve coverage for regional areas around the country – more than two thirds of the total sites co-founded by Government under the MBSP since 2015. These would account for around 45% of Telstra's total sites built since 2015. ("Telstra's Response to the Regional Telecommunications Review"). See also p 7, where Telstra explains that it has "*participated significantly in the Commonwealth Government's Regional Connectivity Program (RCP)*".

make further use of government funding for the purposes of expanding coverage in regional Australia, which means that this advantage may continue.[46]

79 Further, Telstra has benefitted from its large scale relative to Optus and TPG, as in capital-intensive business operators with a larger customer base generate more revenue and can consequently profitably invest more capital by virtue of having lower costs on a per customer basis.[47] I understand that there are additional impediments to Optus and TPG rolling out further network given Telstra was the first to develop an extensive network in regional and rural Australia. The Federal Court noted that "*given that Telstra owns almost all of the network infrastructure in regional and rural Australia, other MNOs are required to pay Telstra, typically at a premium price, to access its infrastructure in order to provide services in these areas*".[48] I take this to mean that the costs for Optus and TPG of rolling out networks in regional areas have been higher, notwithstanding issues of scale.

### *3.1.6 5G rollout*

80 MNOs are currently deploying 5G mobile network coverage in Australia. Telstra has by far the most extensive rollout of 5G to date. Accordingly to the ACCC's Mobile Infrastructure Report 2022, at January 2022 Telstra had significantly more 5G sites (4,071) compared to the other MNOs across all areas, with more than twice as many sites as Optus overall (1,932) and almost four times as many as TPG (1,029).[49] Telstra's head start is even more notable in regional Australia: Telstra had 906 5G sites in regional Australia, compared to 136 sites for Optus and 38 sites for TPG.[50]

81 Rolling out 5G technology has been even more challenging for Optus and TPG than rolling out previous technologies:

(a) Optus and TPG face additional costs of investment in the 5G rollout, due to the Federal government's decision to prevent Huawei equipment from being used in the Australian 5G networks and to require that operators remove Huawei 4G equipment when rolling out 5G.[51] This has had a significant impact on Optus (both delaying deployment and increasing the cost of deployment) as it had and has considerable 4G Huawei equipment in its

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46 See Telstra's Response to the Regional Telecommunications Review, p 8, where Telstra stated that it would use "*$200 million co-investment funds over four years to further extend regional coverage through partnering with Commonwealth, State and Local Governments and local communities. This investment will support our commitments made as part of our recently announced T25 strategy which includes expanding 4G/5G coverage in regional Australia by at least 100,000 km²*". See also Telstra's press release, 4 May 2021, "*Telstra announces $200 million co-investment fund to extend and enhance coverage in regional Australia*", stating "*Telstra today announced a $200 million co-investment fund to generate additional investment in improving regional mobile coverage, in addition to the $150 million it will invest in the next 12 months to improve regional connectivity*".

47 See the Witness Statement of Benjamin White, §20.

48 VHA v ACCC, §111.

49 ACCC Mobile Infrastructure Report 2022, September 2022, p 4.

50 Ibid., September 2022, Figure 4.10, p 11. Sums of totals for inner regional Australia and outer regional Australia

51 As also considered in Witness Statement of Kanagaratnam Lambotharan, §31 and in Witness Statement of Benjamin White, §§24-25.

network.[52,53] As most of Optus' 4G Huawei equipment is deployed in regional Australia, this has been the area most acutely affected.[54] Telstra was unaffected as it did not have Huawei equipment in its network and did not plan to use Huawei 5G equipment.[55]

(b) The costs of rolling out 5G are particularly high.[56] BEREC notes that the 5G rollout is expected to drive greater network densification, which will in turn increase costs related to managing the network.[57]

82 These factors, alongside Telstra's already significant competitive advantage of network coverage and quality in regional and remote areas in 4G,[58] may have contributed to Telstra achieving a considerable advantage in 5G rollout compared to the other MNOs.

83 Using 5G technologies MNOs can provide fixed wireless access through their mobile network, in competition with traditional fixed line broadband and National Broadband Network technologies.

### *3.1.7 Dynamic competition between MNOs*

84 There appears to be consensus, including in the SoPV and across the various experts, that there is dynamic infrastructure competition between MNOs, in particular as regards network deployment in the RCZ.

85 Optus' regional investment programme during 2015 to 2017 provides a good example of the competitive dynamics between MNOs at the infrastructure level.[59] The aim of Optus' programme was to grow market share in 'under-performing' areas of Australia. To this end, Optus invested $1 billion to upgrade 1,800 sites from 3G to 4G and build 500 new 4G sites.[60] The investment resulted in Optus initially growing its market share.[61] However, Telstra responded to Optus' investment by re-investing in regional areas.[62] As a result of Telstra's response, Optus' investment was [redacted][63] Optus considered that these outcomes [redacted]

52 Witness Statement of Kanagaratnam Lambotharan, §30 and §37. See also Witness statement of Kelly Bayer Rosmarin (Confidential version), 19 October 2022, §10(b). ("Witness Statement of Kelly Bayer Rosmarin")

53 See also the Witness Statement of Benjamin White, §24, where Mr White considers that Optus is not only prevented from using Huawei equipment for 5G, but is also required to swap out and replace its 4G Huawei equipment if and when it deploys 5G at a site with a 4G Huawei equipment.

54 Optus' submission, §6.17. See also Witness Statement of Kanagaratnam Lambotharan, §41.

55 See Witness Statement of Kanagaratnam Lambotharan, §38.

56 See, [redacted]

57 BEREC, 13 June 2019, "*Report on infrastructure sharing*", p 3. ("BEREC Report on infrastructure sharing")

58 This advantage is evidenced in the Telstra's relatively higher prices and its higher share in regional areas.

59 Optus internal document, [redacted] See also Witness Statement of Kanagaratnam Lambotharan, §212: "Optus' significant investment in regional Australia over the past five years (commencing in 2016)". Hence, I understand Optus' regional investment programme started around 2015/2016.

60 See Witness Statement of Kelly Bayer Rosmarin, §7.

61 Optus' submission, §3.35.

62 See also Witness Statement of Kanagaratnam Lambotharan, §213.

63 [redacted]

[redacted].[64]

86 This experience is consistent with Telstra's stated strategy of ensuring its network leadership and staying ahead of its rivals as regards network investment, as recognised in the SoPV.[65] It is also consistent with Telstra's pre-Transaction plans to maintain its leadership by investing in regional Australia, expanding its 4G coverage where not available and expanding its 5G network to cover 95% of the population by 2025.[66]

87 Both Telstra and Optus consider themselves to be involved in a process of dynamic competition:

(a) In its submission to the ACCC, Optus stated that "*Optus' primary competitor in mobile markets is, and remains, Telstra. Telstra and Optus remain the only participants in the market that do not compete primarily through price and value*".[67]

(b) Similarly, Telstra submitted that the "*relative coverage and quality of the Telstra and Optus networks has been the primary source of infrastructure competitive tension in rural and regional areas*".[68]

88 This is explicitly recognised in Mr Feasey's report, where he states that "*Optus' investments in its network in the relevant area will continue to drive Telstra's conduct, not the incentive and ability to differentiate with respect to TPG*" and "*Telstra's incentive to invest in its network in order to differentiate itself from Optus, is the dominant incentive for Telstra to continue to invest in its network in the relevant area*".[69]

89 In short, Telstra and Optus have been dynamically competing against each other, with Optus as the smaller operator investing to challenge Telstra as the market leader and triggering a competitive response. There is evidence that this has benefitted customers – for example, Optus' investment in 2015 to 2017 led to network improvements by both Optus and Telstra.[70]

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64 Optus internal document, [redacted]. See also Witness statement of Yuen Kuan Moon (Confidential version), 19 October 2022, §49: [redacted] ("Witness Statement of Yuen Kuan Moon")

65 The SoPV notes that "*Telstra has stated that maintaining network leadership is critical to its growth strategy leading up to FY2025. Telstra noted that maintaining and extending network leadership will underpin its market position and maintain its price premium.*" SoPV, §3.15 citing a Telstra document (Telstra Investor Day Briefing Transcript 2021, p. 24).

66 Telstra's Response to the Regional Telecommunications Review, p 8.

67 Optus' submission, §3.45.

68 Telstra and TPG application and submissions, 23 May 2022, Application to the ACCC for merger authorisation (Public version), §192. ("Application to the ACCC")

69 Expert report of Richard Feasey (Public version), 20 May 2022, §70 and 72 c. ("Feasey 1")

70 See also Witness Statement of Kanagaratnam Lambotharan, §§212-214.

90 TPG has made more limited investments in the RCZ than the other MNOs,[71] which points towards its inability to achieve economies of scale (also on a forward-looking basis).[72] Nonetheless, my understanding of the SoPV is that the ACCC expresses the preliminary view that absent a cooperation agreement with another MNO, TPG would have the ability (based on past regional investment) and the incentives to undertake a targeted build in the RCZ to continue expanding its coverage.[73]

### *3.1.8 MNOs' share of subscribers in different geographical areas*

91 The extent of competition between MNOs for retail customers varies across geographical areas and is correlated to population density, with clear differences between metropolitan areas with higher population densities and regional areas with lower population densities. Optus' internal market share model [redacted] provides mobile retail consumer market share estimates by population area.

**Figure 3-5. Mobile retail customer share by population area** [redacted]

| POPULATION COVERAGE | OPTUS | TELSTRA | TPG | OTHER |
|---|---|---|---|---|
| 0-67% | [redacted] | | | |
| 67-80% | | | | |
| 80-98.5% | | | | |
| TOTAL | | | | |

Source: [redacted] (Figure 3 of Optus' submission to ACCC (Confidential version), 27 July 2022).

92 As Figure 3-5 shows, the shares of subscribers of each MNO in metropolitan areas are more comparable, which is more indicative of effective competition between networks. In contrast, in less urbanised areas, Telstra's share of subscribers increases significantly. In the metropolitan fringe areas (67-80% population density), Telstra has a [redacted] share of subscribers and in regional areas (covering 80-98.5% of the population) has a [redacted] share of subscribers, a significant lead over the second player Optus, which has a [redacted] share.

93 Optus' figures for shares in regional areas do not directly relate to the RCZ and, consequently, tend to understate Telstra's share in the RCZ and overstate Optus' and TPG's shares. Mr Feasey's

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71 See the Witness Statement of Benjamin White, §14(a), where Mr White states that Telstra and Optus have invested significantly to create a distinct network proposition in regional Australia, while TPG has primarily relied on roaming agreements with Optus over infrastructure investment.

72 The Application to the ACCC, §§47-48, considers any attempt of TPG to catch up in RCZ "*through network investment and build highly inefficient*", "*given the significant costs and time involved*". See also Padilla, §5.36e, where Dr Padilla considers that TPG would be a late entrant in regional areas, with customers residing in these locations likely to already have contracts with Telstra and Optus and may be reluctant to switch to TPG while its coverage remains less than the other operators.

73 SoPV, §§5.13-5-15.

report, footnote 61, states that Telstra has a 74% share of subscribers in the RCZ, with Optus having a 23% share and TPG a 3% share.[74]

### 3.1.9 Price differentiation

94 There is a significant degree of variation in MNOs' prices in Australia. For example:

(a) Dr Padilla's report compares the prices of the three MNOs SIM only price plans for 80 GB. In June 2022, he reports that "*the price of Telstra's plan was 63% higher than Vodafone's and the price of Optus' plan was 30% higher than Vodafone's.*"[75]

(b) Ben White's witness statement indicates that Telstra currently prices its mobile services at a premium to its nearest competitor (Optus).[76]

95 Differences in price premia have been persistent. In 2017, the ACCC found that Telstra was generally charging higher prices for its services.[77] Goldman Sachs finds that Telstra's mobile pricing premium is currently 28%, with a three-year average of 33%.[78]

96 The extent of price differentiation between MNOs in Australia is quite marked compared to other countries, with Telstra maintaining a considerably greater premium than the largest operator in other countries. I understand that one of the key reasons for the price premia observed is the significant degree of differentiation in network coverage and quality (which includes regional and remote coverage and capacity) and that has been a strategy of the MNOs, particularly Telstra. For example, the Federal Court recognised in 2020 that "*Telstra's long-term strategy has been to differentiate its network with the view to charging a premium*".[79]

97 There are different segments in the mobile market, including pre-pay and post-pay customers. Consumers in some of these segments, such as pre-pay, are more price sensitive than others. MVNOs tend to compete at the lower end of the market for more price sensitive customers.[80] Such segmentation of the mobile market is similar in other countries.

### 3.1.10 Other elements of quality-based competition

98 In addition to focussing on network coverage and performance, which are key drivers of quality-based competition, MNOs seek to differentiate themselves based on other factors that can drive customers' preferences. The ACCC identifies a range of non-pricing factors, including bundled plan inclusions, additional non-mobile rewards and loyalty programmes. The ACCC notes that "*the vast majority of plans available on the market today include unlimited national and mobile calls and texts. Data inclusions also continue to grow strongly.*"[81]

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74 Feasey 1, footnote 61.
75 Padilla, §3.39.
76 See Witness Statement of Benjamin White, §14(b), that explains: "*The fact that competition is not driven primarily by price is shown by the relative pricing premium between Telstra at the high end, Optus at the midpoint and TPG's heavy discounts, but with Telstra having the highest market share, Optus the next and TPG the smallest*".
77 Mobile Roaming Inquiry 2017, p 28.
78 Goldman Sachs, Australia Telecom Services, What comes next for mobile pricing?, 11 May 2022.
79 VHA v ACCC, §146.
80 ACCC Communications Market Report 2021, p 8.
81 SoPV, §§3.33-3.34.

## 3.2 Summary of the Proposed Transaction

99 I understand that there are three agreements between the Applicants, which I set out below:

(a) **Mobile Site Transition Agreement:** Under this agreement, most of TPG's 725 sites in the RCZ will be decommissioned with up to 169 being transferred to Telstra. As a result of the Transaction, TPG will no longer have any RANRAN infrastructure in the RCZ.[82]

(b) **The Spectrum Authorisation Agreement:** This agreement involves TPG authorising Telstra to use its spectrum in the RCZ and in more rural areas (i.e. in areas beyond where 98.8% of the Australian population resides).[83]

(c) **The Multi-Operator Core Network ("MOCN") Service Agreement:** Under this agreement, Telstra will provide TPG with a network access service in the RCZ. TPG will gain access to services provided from around 3,700 of Telstra's mobile sites in the area.[84] Telstra will maintain full control over its RANRAN infrastructure and will provide a service to TPG (although TPG can request changes to Telstra's network).[85]

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82 SoPV, §1.3, §4.10. See also the Application to the ACCC, §180, explaining that "*up to 169 sites will be transferred to Telstra*" and the remaining TPG sites "*will be decommissioned*". However, the 169 sites "*will also continue to be available for infrastructure sharing*" (§203).

83 SoPV, §§4.7-4.8.

84 SoPV, §4.3.

85 Optus' submission, §7.21(j), states: "*Telstra retains full control of when and where network investments are made. The arrangements enable TPG to "request", but not require, the prioritising of a particular area for network investment that is consistent with its commercial strategy".* This aligns with the Application to the ACCC, §159: "*TPG has the ability to innovate by requesting changes to the MOCN*", where "*Telstra is required to act reasonably and in good faith when considering any TPG change request*". However, the Application to the ACCC claims that "*the Agreements create a high degree of joint decision making and participation between the Applicants. TPG will be provided with non-discriminatory access to the upgraded RAN features and 5G progressively deployed by Telstra within the 17% Regional Coverage Zone. Other changes in technology, spectrum and coverage are to be managed through a structured Change Management Process which provides TPG with safeguards against unilateral decision making by Telstra*" (§113).

# 4 Relevant markets

100 I understand that in the *Vodafone v ACCC* case the parties agreed that there were three relevant markets:[86]

(a) The national market in Australia for the supply of retail mobile services to retail customers.

(b) The national wholesale market in Australia for the supply of wholesale mobile services to MVNOs.

(c) The national retail market in Australia for the supply of retail fixed broadband services.

101 To keep my report focused, I concentrate on the first two of these markets in my analysis below. I also note that there may be other related markets that are affected (such as markets related to passive infrastructure and spectrum). The fact that I have not directly considered such markets should not be construed as an acceptance that there are no impacts in other related markets.

102 In terms of product, geographic and functional dimensions of the relevant markets, I consider that these definitions are suitable for the purposes of analysing the impact on competition of the Proposed Transaction, albeit that these markets are heavily impacted by competition in network infrastructure (including in the RCZ, which is the focus of the Proposed Transaction) and it is important to recognise that network infrastructure and wholesale and retail markets are closely vertically related. I do not consider that it is necessary to define alternative markets as regards these products to better describe the impact on competition of the Proposed Transaction.

103 I note that the timeframe considered in the *Vodafone v ACCC* case was 5 years.[87] In my view, that is too short a timeline to fully analyse the impact of the Proposed Transaction. I note that the ACCC states that its preliminary view is that the timeframe should be the duration of the agreement, which it states is likely to be 20 years.[88] That timeframe seems appropriate to me.

104 There are also differences as regards the extent of competition in different segments of the retail mobile market. As these differences are not important for my analysis of the competitive effects of the Proposed Transaction (although my analysis of competitive effects includes such segments), I do not provide further details here.

105 The ACCC recognises that competition in the supply of both wholesale and retail mobile services is enabled by the underlying infrastructure of the mobile networks.[89] Therefore, the impact of the Proposed Transaction on competition at the level of mobile network infrastructure (both in and outside the RCZ) is critical to assess any impact on competition in the relevant markets.

106 Figure 4-1 below sets out a simplified illustration of the relationship between the markets affected by the Proposed Transaction and the mobile network infrastructure, which is evidently a critical input into these markets.

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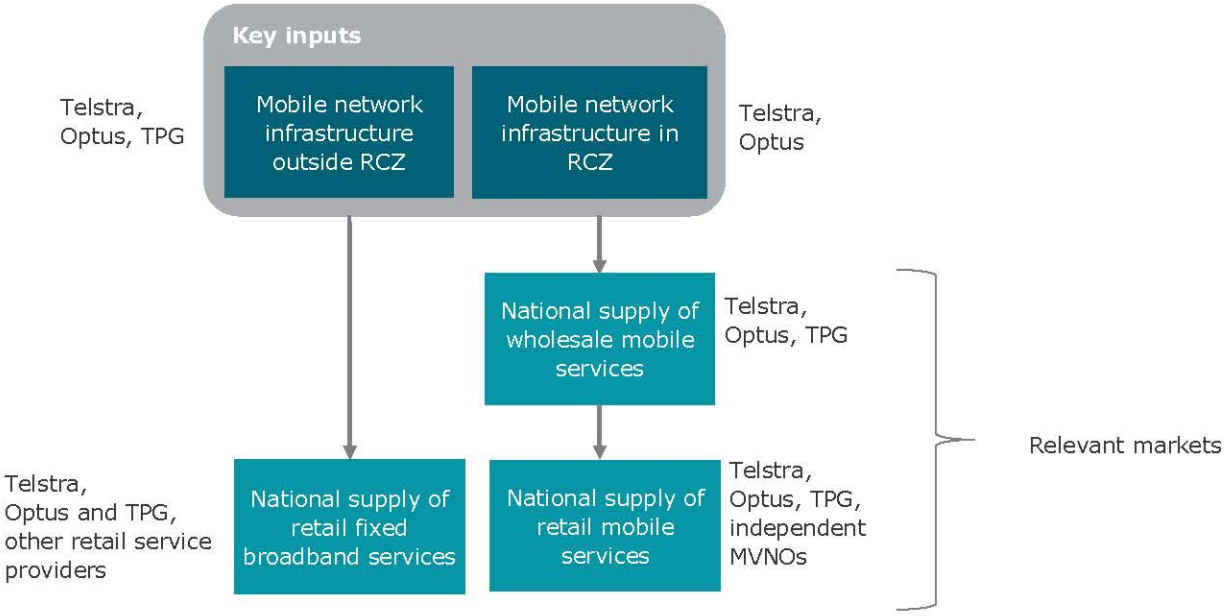
86 VHA v ACCC, §43, §45 and §46.
87 Ibid., §44
88 SoPV, §5.31.
89 SoPV, §3.7.

**Figure 4-1. The markets affected by the Proposed Transaction**




107 As I explain in the sections that follow, the Proposed Transaction removes any material competitive constraint from TPG as regards RAN infrastructure in the RCZ, at least during the initial 10-year period (and possibly for a period of up to 20 years). I also consider that the Proposed Transaction significantly weakens Optus' incentive to invest in 5G in the RCZ. This undermines the process of dynamic network competition in the RCZ, significantly softening the competitive constraint from Optus on Telstra, and leading to a substantial lessening of competition in the retail and wholesale mobile markets referred to in §100(a) and §100(b) above (hereinafter when I refer to retail mobile market and wholesale mobile market, I am referring to those markets).

# 5 Competition in markets with vertical differentiation in the presence of fixed and sunk costs

## 5.1 Introduction

108 In this section, I consider:

(a) the key market features that an economic framework needs to reflect in order to understand the impact of the Potential Transaction on competition and consumer outcomes;

(b) the economic model put forward by Dr Padilla in his report and its limitations for analysing the impact of the Proposed Transaction on competition; and

(c) other economic models that provide useful insight as regards the impact of the Proposed Transaction on competition.

## 5.2 The key market features that an economic framework needs to reflect

109 Given the features of the Australian mobile telecoms sector set out in section 3 above, I consider that an appropriate economic framework for assessing the competitive effects of the Proposed Transaction on the relevant markets should include the following factors:

(a) Mobile operators' services are both *vertically-differentiated* (i.e. consumers agree on the quality ranking of each firm's services, but have different willingness to pay for quality), and *horizontally-differentiated* (i.e. consumers have different preferences for each mobile operators' services, for example due to branding[90]). The degree of vertical differentiation is particularly notable in Australia (given the extent to which prices vary across MNOs) and any model needs to reflect this.

(b) Operators' ability to compete on price depends upon a range of factors including their network coverage/quality resulting from their prior network investments.[91] It is necessary that any analysis reflects competition in network investments, and how that competition is affected by cooperation between MNOs. In Australian mobile telecoms markets, MNOs decide whether to invest, and the extent of any investment, bearing in mind: (i) how their investment will affect their quality (or more precisely customers' perceptions of quality, which are likely to be directly related to actual quality, albeit that MNOs may benefit from first-mover advantages as regards customers' perception of network quality) at the price competition stage; and (ii) what their rivals' investments will be and how these affect the competitive position of each MNO when it sets prices.

(c) The assessment of the impact of the Proposed Transaction on investment and price competition phases should reflect the reality that Telstra has a considerable first-mover advantage in Australia, leading to it having a strong market position pre-Transaction (53% share nationally at the network level as at December 2021 and greater than 70% share of subscribers who reside in the RCZ).

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90 Consequently, if all firms were to sell services at the same level of absolute quality, different consumers will make different choices about which mobile operator they will subscribe to.

91 See §67 above.

(d) The analysis should reflect the importance of economies of scale. It is clear that Australian mobile telecoms networks exhibit considerable economies of scale, particularly in the RCZ (I return to the specific question of economies of scale in section 6 below).

## 5.3 Dr Piccolo's models and their limitations

### *5.3.1 An overview of Dr Piccolo's models*

110 In section 6 of his report, Dr Padilla presents two static models of vertical and horizontal differentiation developed by Dr Piccolo. I agree that such a framework reflects certain aspects of the Australian mobile market. For example, Dr Piccolo's models include both horizontal- and vertical-differentiation. However, they omit other important features that I discuss below.

111 Dr Piccolo's models consider an industry with three asymmetric firms offering horizontally and vertically differentiated products ($P_0$ is the highest quality firm, $P_1$ is a mid-quality firm and $P_2$ is a low-quality firm). Consumers are assumed to value each provider's service quality in a linear way, i.e. an increase of one unit of quality of the service corresponds to a unit increase of a consumer's utility. As expected, in equilibrium a provider's prices will depend positively on its own quality and decrease if a rival's quality is higher. Dr Piccolo's models include horizontal product differentiation in a standard way.[92]

112 Dr Piccolo considers two different models: he initially considers a simpler model with exogenously determined qualities, i.e. in which firms do not select their own level of quality (this is simply predetermined), and he then moves to a second more complex "*endogenous*" model in which firms select both qualities and prices. To assess the impact of network sharing, he assumes that the lower quality firm ($P_2$) relies on accessing the network of one of other firms (i.e. either $P_0$ or $P_1$) to supply higher quality services.

113 First, in the exogenous model, Dr Piccolo envisages an industry with quality asymmetries and no costs. The quality asymmetry is built-in to the model by one of the firms ($P_0$) having a predetermined competitive quality advantage over the other firms ($P_1$ and $P_2$). It appears that this is intended to reflect the asymmetries of network rollout in the RCZ in the Australian mobile market, i.e. when Dr Padilla relies on the model, he assumes effectively that $P_0$ is Telstra, $P_1$ is Optus and $P_2$ is TPG.

114 Dr Piccolo relies on this exogenous model to study the impact of a network sharing agreement between the high-quality firm ($P_0$) and the quality-reliant firm ($P_2$) on firms' profits and consumer welfare, and compares that with the alternative of an agreement between the mid-quality firm ($P_1$) and the quality-reliant firm ($P_2$). Dr Piccolo concludes that an agreement where the quality-reliant firm costlessly gains access to the high-quality firm's network will result in a higher consumer welfare when comparing with a situation where the quality-reliant firm gains access to the mid-quality firm's network.

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92 Specifically, Dr Piccolo uses a Salop "circular-city" model, which assumes that consumers' preferences are uniformly distributed around a circle and that the three firms are located equidistantly on this circle. There is effectively a "transportation" cost for each consumer when buying from each firm, which is proportional to the consumer's distance from the firm on the circle (i.e. the consumer benefits most from buying from a firm whose offering most closely meets their preferences).

115 There are several reasons why, in my view, Dr Piccolo's exogenous model is entirely inadequate for describing the Australian mobile telecoms sector and is unable to provide any insight for the competitive effects of the Proposed Transaction:

(a) The model cannot represent a network sharing agreement because it includes no cost sharing, i.e. no payments between the supposed network sharing firms. Because no payments are incorporated in the model, the higher quality firm's profits are reduced from entering into a network sharing agreement so that it has no incentive to do so.

(b) The model has no competitive interaction between the firms as regards quality. As quality is exogenous in the model, the model assumes that the level of quality of the mid-quality firm is entirely unaffected by competition from the higher quality firm. The model is thus unable to consider any impact of Telstra's behaviour on the competitiveness of Optus (such as how investments by Telstra have an impact on Optus' investment decisions).

(c) Similarly, the level of quality of the high-quality firm is entirely unaffected by competition from the mid-quality firm. Consequently, the model cannot take into account how network competition from Optus affects the quality of Telstra's network (such as how investments by Optus will influence Telstra's investment decisions).

(d) The model does not have any economies of scale and, consequently, is unable to take into account any benefits for competition resulting from a network sharing agreement between the mid-quality firm and the lower quality firm increasing their scale. Consequently, the model cannot assist in considering how an arrangement between Optus and TPG could lead to greater competition. For the same reasons, it is unable to consider the related customer foreclosure theory of harm (that relates to a counterfactual in which Optus achieves economies of scale by entering into a cooperation agreement with TPG in the RCZ), that I set out in section 9 below.

(e) The main result of the model, i.e. that consumer welfare is most increased by network sharing between the lowest quality firm and the highest quality firm is entirely unsurprising. Of course, if the lowest quality firm can costlessly improve its quality, it will be more beneficial for consumers if it can choose a higher level of quality. This tells us nothing.

116 Dr Padilla recognises that Dr Piccolo's model does not include any payment from the low-quality firm and that this affects the incentive of the higher quality firm to enter into the agreement.[93] However, Dr Padilla does not consider the other issues set out above. Dr Padilla nonetheless asserts that the model supports his conclusion that the Proposed Transaction is likely to benefit consumers.[94] It is not clear to me on what basis he makes this assessment. I consider that, given the limitations set out in the previous paragraph, the exogenous model is unable to provide support for Dr Padilla's conclusion.

117 Second, in the so-called endogenous quality model, Dr Piccolo considers a model where both $P_0$ and $P_1$ bear a cost to improve the quality of their products. Similarly to the simpler exogenous model, the quality-reliant firm ($P_2$) is assumed to be unable to provide higher quality services and costlessly relies on accessing one of the other firms' networks. Dr Piccolo's endogenous model assumes that the cost of improving quality is quadratic for the two quality-providing firms, but

93 Padilla §§6.47-6.48.
94 Padilla §6.49.

one firm ($P_0$) is assumed to enjoy a pre-determined competitive advantage by incurring lower cost to increase its quality compared to the other firm ($P_1$). Again, if the products are sufficiently horizontally differentiated, Dr Piccolo's model finds that $P_2$ entering a network sharing agreement with the higher quality firm ($P_0$) will benefit consumers more than if it were to enter a network sharing agreement with the mid-quality firm.

118 Dr Piccolo's endogenous model suffers from the same problems as his exogenous model and, in my view, is also entirely inadequate for describing the Australian mobile telecoms sector and cannot provide any insight for the competitive effects of the Proposed Transaction. In addition to the points I make above:

(a) In the endogenous model, the relative costs of the operators are still pre-determined (in this model by the assumed form of the costs for investing in quality and subject to the assumption that $P_0$ can improve quality at less cost than $P_1$) rather than depending on economies of scale.

(b) While this model incorporates competitive interaction on quality (subject to the previous point about the form of cost of improving quality), it also shows that network sharing may have a negative effect on competition and consumers because part of the benefits of investments in improving network quality are captured by the other party to the sharing agreement.

119 Dr Padilla addresses the second point by: (i) assuming that there will remain a competitive constraint from Optus on Telstra (see Padilla §6.57); and (ii) arguing that the payments from TPG to Telstra would offset the negative impact on investment incentives (see Padilla §6.58). [redacted] As regards the payments from TPG to Telstra, this is a significant omission of the model, along with the other elements missing from the model that are set out in §115 above. Dr Padilla nonetheless finds that the model supports his conclusion that there are benefits to consumers.[95] Again, it is not clear to me on what basis he makes this assessment. I consider that, given its limitations, the endogenous model is unable to provide support for Dr Padilla's conclusion.

## 5.4 Alternative economic models that I consider are relevant to the Proposed Transaction

120 While I am not aware of any model that includes all of the characteristics mentioned above at §109 (and certainly not in the context of a transaction where an incumbent provides access to its infrastructure to a smaller rival) there is a developed literature that considers the potential for an incumbent to engage in entry deterrence in markets with vertical differentiation.[96] In particular, the literature brings alive some of the potential key effects of this matter where in a dynamic competition setting with first-mover advantage and vertical product differentiation, a firm that is a follower or has a smaller size, may not have the incentive to invest to compete with a higher-quality incumbent.

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95 Padilla §6.59. Dr Padilla states that this conclusion only stands where payments from TPG to Telstra eliminate the negative impact on network sharing on investment, although he has assessed whether that is the case.

96 While these models consider entry deterrence specifically, the same principles would apply to expansion deterrence or investment deterrence.

121 This field of work is predominantly based on the framework laid by Shaked and Sutton (1982),[97] which is particularly useful to understand the particulars of this matter by reflecting on a situation in which firms choose in a first instance their level of quality and then compete on prices. Although there are multiple papers that study this context, I have focused on the most relevant ones.

122 In particular, the paper "*Vertical Product Differentiation, Entry-Deterrence Strategies, and Entry Qualities*" by Noh and Moschini[98] provides a useful structure and incorporates some of the characteristics mentioned above, such as dynamic competition with first-mover advantage in a vertical product differentiation context. It also reflects some of the characteristics of economies of scale, albeit only through limited sunk entry costs. A potential limitation of this model is that it does not consider horizontal product differentiation.

123 In order to study the concept of "limit quality", the incumbent's minimum level of quality that deters entry, Noh and Moschini consider a three-stage Stackelberg model with one incumbent and one potential entrant both selling a vertically-differentiated product. Two types of costs are modelled: (i) sunk entry costs to enter the market, independent on the entrant's chosen quality level; and (ii) quality-dependant marginal production costs.

124 By relying on this model, the authors conclude that under reasonable but not excessive costs and when consumers significantly value higher quality, there is a possibility that an incumbent through investment in a high-quality network disincentivises a smaller firm from entering. Even if the model does not incorporate all characteristic elements of the Australian mobile market, the similarities provide enough validity to bring alive some the key effects of the Proposed Transaction in which the high-quality choices of an incumbent affect entry in the context of dynamic competition with first-mover advantage and vertical product differentiation. This has a parallel to the Proposed Transaction, as it can be recast as an incumbent (Telstra), entering into a network sharing arrangement that provides it with (additional) quality advantage over a smaller rival (Optus), thereby affecting the decision of the smaller rival regarding whether to invest in higher quality.

125 Another paper reaching a similar market outcome is "*Vertical Product Differentiation and Entry Deterrence*" by Lutz.[99] It relies on a similar model structure as Noh and Moschini with dynamic competition and first-mover advantage in a vertical product differentiation context while including setup costs and excluding quality-dependent unit costs of production. The authors find that in a situation where the entrant firm has reasonably higher quality-dependant costs, the incumbent firm will deter entry by choosing a higher level of quality. Although being subject to some of the same limitations as the paper above, it shows that the concern of an incumbent deterring entry by choosing higher levels of quality is not uncommon in the literature. Again, there are parallels to the Proposed Transaction.

126 In the past, other experts have argued that there is evidence to suggest that the Australian mobile telecoms market could have bifurcated into high quality/high priced services and lower quality/low priced services. [100] Such an analysis is necessarily a stylisation, as there are a range of elements

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97 Shaked, A., & Sutton, J. (1982). Relaxing Price Competition Through Product Differentiation. *The Review of Economic Studies*, 49(1), 3–13.

98 Noh, Y.-H., & Moschini, G. (2006). Vertical Product Differentiation, Entry-Deterrence Strategies, and Entry Qualities. *Review of Industrial Organization*, 29(3), 227–252.

99 Lutz, S. (1997). Vertical Product Differentiation and Entry Deterrence. *Journal of Economics*, 65(1), 79–102.

100 See "*Response to Professor George Yarrow's submissions to the ACCC in the Domestic Mobile Roaming Enquiry 2016*", Richard Feasey, 11 March 2017, §17-§18.

on which MNOs and MVNOs compete.[101] Nonetheless, the idea is consistent with a concern that sufficient quality difference and cost barriers might prevent a lower-quality firm from competing on quality with a dominant high-quality firm.

127 The papers above, in addition to the evidence advanced by other experts, suggest that given the key features of the Australian mobile telecoms sector, it is a valid question whether Telstra providing access to its network to TPG will have an impact on Optus' incentives to invest in 5G.

101 See §67 above and Padilla §2.4b.

# 6 Economies of scale and spectrum efficiencies in the RCZ

128 Economies of scale and spectrum efficiencies are two important features of mobile telecoms markets. To analyse appropriately the impact of the Proposed Transaction on competition, it is critical to understand these features.

129 With that in mind, in this section:

(a) I explain the importance of economies of scale and consider the extent of existing economies of scale in mobile networks in the RCZ and future rollouts of new network technologies.

(b) I discuss how spectrum can be more efficiently utilised through new generations of technologies and through spectrum sharing.

(c) I consider how network sharing arrangements can enable MNOs to achieve economies of scale, and how spectrum sharing can further lower unit costs. I use Analysys Mason's analysis of network unit costs in the RCZ to specifically consider the unit costs of networks in the RCZ under different network and spectrum sharing scenarios, specifically MOCN arrangements between Telstra and TPG (under the Proposed Transaction) and between Optus and TPG (a potential scenario in the counterfactual).

(d) I consider the implications of economies of scale and spectrum sharing for network competition in the RCZ, reflecting both static and dynamic efficiency considerations. In particular, I consider whether the Proposed Transaction risks undermining Optus' incentives to invest, potentially critically undermining the process of dynamic network competition.

## 6.1 Economies of scale

130 In the presence of significant economies of scale, larger firms may have sizeable cost advantages compared to smaller firms, thereby adversely affecting the ability and incentives of smaller firms to compete on price. This is important in relation to the Proposed Transaction because mobile markets in regional and rural areas are characterised by material economies of scale, which extend to the rollout of new generations of technology within an existing network. I consider these issues below.

### *6.1.1 Importance of economies of scale*

131 In the extreme case, economies of scale can lead to an industry structure that is a natural monopoly where, for productive efficiency reasons, a single network would achieve the lowest costs – possibly to an extent where no potential rival can profitably enter and compete.

132 However, productive efficiency (i.e. cost minimisation) is not the only consideration in assessing market efficiency. Allocative efficiency (which is maximised where prices are in line with costs) and, importantly, dynamic efficiency are critical to well-functioning markets. It is widely recognised that dynamic competition increases productivity by incentivising firms to lower their costs and improve quality/innovate as this enables them to win market share and profits from less efficient and less innovative rivals.

133 In the absence of dynamic competition effects, a natural monopolist, whilst being able to achieve the lowest unit cost in a static sense, may have little incentive to either seek further cost

efficiencies or innovate in new products or service developments. This is particularly important in mobile networks, which have been characterised by relatively fast technological development that enables new generations of services (such as 2G, 3G, 4G, 5G[102]) to provide increasing value to consumers.

134 Economies of scale do not necessarily lead to insurmountable barriers to entry or expansion. While an existing firm, or incumbent, may have already sunk fixed costs that a new entrant or smaller rival will need to replicate, this may not prevent a new entrant/smaller rival from achieving a similar cost base once these investments have been made, provided it is able to induce switching away from the incumbent and secure sufficient demand for its services (including via cooperative agreements with other rivals) rapidly enough to recover the costs of entry or expansion. This is also important in the mobile network context. Simply because the largest network has had a first-mover advantage in the supply of a new network technology (e.g. 5G) to a particular region, it does not mean that a competitor could not also profitably enter or expand in the region, provided conditions allow it to build a sufficient share of volumes.

### *6.1.2 Mobile telecoms markets are characterised by material economies of scale in regional and rural areas*

135 It is widely recognised that in areas where population density is low and the number of sites in a network is driven by coverage considerations,[103] typically in regional and rural areas, mobile telecoms networks exhibit material economies of scale. In these areas, mobile telecoms markets could, in principle, provide a good example of potential natural monopolies, i.e. the fixed and sunk costs could be so large that they prevent profitable entry/expansion by more than one operator.[104] This question is particularly pertinent in Australia given the challenge of investing in regional and remote areas (see §75 above).

136 Mobile network operators incur costs that are largely fixed in nature, particularly in low population density areas, including:

(a) radio towers and other passive infrastructure;

(b) active network equipment, including RAN equipment, backhaul transmission to link remote sites to the network and core network equipment. Each of these will have a sizable fixed cost component irrespective of subscriber traffic levels; and

(c) spectrum (if not fully utilised).

137 In a competitive setting, it may be unprofitable for MNOs to roll out extensive network infrastructure to regional and rural areas if they can only gain a limited share of subscribers and traffic. For smaller networks in regional and rural areas, any fixed costs will be shared over a limited number of subscribers, which naturally leads to a higher unit cost compared to larger

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102 As well as various upgrades to those technologies that have been implemented over time, including GPRS, EDGE, HSDPA, HSPA+, etc.

103 In other words, the number of sites is driven by the area that needs to be covered and not by a need to provide additional capacity for users. In contrast, in urban areas, where subscriber density is such that traffic levels will exhaust the capacity of the sites built to provide coverage, additional equipment will need to be installed (e.g. further sectorisation of cells) or even whole new sites built (known as densification).

104 For a theoretical example, see "*Assessing the case for Single Wholesale Networks in mobile communications*", Frontier Economics, September 2014, pp 112-113.

networks. The fact that TPG has not invested significantly in its network in the RCZ in recent years[105] and seeks a network sharing arrangement is a clear illustration of this point.

138 Whether high fixed costs prevent entry/expansion depends on the extent of economies of scale, the relative difference in MNOs' market shares and whether, and how rapidly, a smaller firm will be able to win share of subscribers from the larger firm.[106] As long as the average unit cost of entry/expansion is sufficiently small that an MNO can expect incremental revenues (resulting from the investments) to cover the cost, it will be able to profitably invest in a rural market.[107] The size of network required for such an investment to be profitable is often referred to as the minimum efficient scale.

139 While I do not discuss the evidence in terms of minimum efficient scale, fundamentally the competition issues in this case relate to the Proposed Transaction forcing Optus below the minimum efficient scale in the RCZ. This would disincentivise Optus' network investment and significantly reduce dynamic competition in the RCZ, namely investment by one MNO triggering a competitive investment response from other MNOs.

### *6.1.3 Economies of scale extend into the rollout of new generations of technology within an existing network*

140 Similar issues of economies of scale apply to the rollout of new network technologies. Each new generation of technology requires:

(a) upgrading existing sites with the new generation of radio equipment, possibly reinforcing towers if necessary; and

(b) potentially adding new sites if the spectral frequencies on which the new generation technology is being deployed have lower signal propagation (i.e. they cover a smaller geographical area).

141 Consequently, economies of scale can be critical for MNOs when considering network upgrade or rollout strategies. As regards 5G investment, many Australian subscribers value extensive coverage with high connection speeds, which in principle incentivises large-scale rollout by MNOs. However, 5G rollout involves very large investments, and this is particularly so in the RCZ where population density is low. Hence, smaller MNOs face higher average cost than the largest operator and might not find it profitable to undertake an extensive rollout, while the largest operator would.

142 In practical terms, it might be too costly for a small firm to invest in new radio towers or to install the equipment for a new generation of technology onto existing towers compared to the expected additional revenues resulting from such investments. However, the largest MNO may have the benefit of a greater number of existing sites - so less incremental investment would be required in new sites - and larger expected number of subscribers/traffic volumes over which to spread fixed costs. Therefore, it can roll out its network at significantly lower cost per unit. If a larger

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105 See the Witness Statement of Benjamin White, §14(a), where Mr White states that Telstra and Optus have invested significantly to create a distinct network proposition in regional Australia, while TPG has primarily relied on roaming agreements with Optus over infrastructure investment.

106 With, for example, this being more difficult where there is substantial differentiation between the offerings of the firms.

107 In practice, the investment case will compare the cost of the additional coverage against the incremental revenue generated across the network as a whole.

firm finds it profitable to make such investments, and through making the investments gets an increased quality advantage over small firms, this may further increase the largest MNO's share, at the expense of the smaller firms, further reducing its average cost.

143 The latest generations of technology may increase an MNO's fixed costs and the role of economies of scale. This can come from two sources.

(c) First, technology upgrades, e.g., from 4G to 5G, may be implemented on higher spectral frequency bands. Higher bands of spectrum do not have the same propagation (geographic reach) as lower bands. Therefore, rolling out new technology generations may on occasion require more infrastructure, associated with higher fixed costs.

(d) Second, potential increases in capacity provided by new generations of technology, which may have the effect of increasing the minimum efficient scale of the network.

## 6.2 Spectrum efficiencies[108]

### *6.2.1 What is the appropriate framework for considering spectrum efficiencies?*

144 Spectrum is a critical input in mobile markets. It is utilised by MNOs in their networks for the purposes of providing wholesale and retail mobile services and FWA services. Spectrum use and allocation are important because they enable MNOs to provide improved services to customers and to do so cost effectively.

145 I understand that, from a competition perspective, the statutory test that the ACCC is applying is whether the Proposed Transaction would have the effect or likely effect of substantially lessening competition in a market.[109] From this perspective, I consider that spectrum efficiency is only relevant to the extent that it affects competition at the network level and thus in wholesale and retail markets and, as a result, wholesale and retail prices or the services that are provided to customers.

146 Efficient allocation of spectrum to MNOs has been widely considered in the context of spectrum auctions. For that reason the considerations of spectrum management agencies when determining the most appropriate methods for allocating spectrum are helpful when considering spectrum efficiencies. A common view of spectrum management agencies in spectrum auctions is that the main objective when allocating spectrum is achieving output efficiency – i.e. maximising output.[110] For example, Geoffrey Myers, former Economics Director and head of the economics team at Ofcom, explains that, in the context of a UK 4G spectrum action:

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108 I use the term spectrum efficiencies to refer to economic efficiencies related to the use of electromagnetic spectrum. I note that there are other forms of efficiency relevant to spectrum, such as spectral efficiency. See, for example, Doyle, pp 4-6.

109 See SoPV, §1.9: "*The ACCC may grant merger authorisation, but must not do so unless satisfied, in all the circumstances, that either: i) the conduct would not have the effect, or not be likely to have the effect, of substantially lessening competition, or ii) the conduct would result, or be likely to result, in a public benefit, and this public benefit would outweigh the public detriment that would result, or be likely to result, from the conduct*".

110 See Doyle, §18.

> "*Ofcom's statutory duties include* ***furthering the interests of consumers, where appropriate through the promotion of competition, and optimal use of spectrum****. These can be seen as relating to output and auction efficiency*". [111] (my emphasis)

147 Mr Myers describes output efficiency in the following terms:

> "*Output efficiency occurs if the allocation of spectrum in the auction is such that it* ***maximises the incremental gain in allocative, productive and dynamic efficiency in output markets****, in this case downstream mobile markets*". [112] (my emphasis)

148 According to Dr Doyle, the ACCC applies a Long-Term Interest of End-Users ("**LTIE**") test in its advisory capacity as regards competition concerns that may arise in spectrum allocations.[113] From Dr Doyle's description of the LTIE test, the approach appears to align with Mr Myers' description of Ofcom's objective of achieving output efficiency.

149 This is highly relevant to how spectrum efficiencies should be considered in the context of the Proposed Transaction.

150 When considering the efficient use of spectrum, there can be important trade-offs between static efficiency (allocative and productive) and dynamic efficiency. The Applicants emphasise that the Proposed Transaction will lead to productive efficiency benefits as regards spectrum usage, particularly through greater use of TPG's spectrum (which is currently underutilised in the RCZ) and aggregation of TPG's and Telstra's contiguous spectrum. I understand that, while the extent of productive efficiency benefits in different scenarios is disputed, there is no dispute that there are productive efficiency benefits from spectrum sharing.[114] However, a number of counterpoints should be noted.

151 First, in the absence of the Proposed Transaction, TPG would have incentives to monetise its unused spectrum in the RCZ, and thus at least some of the claimed efficiency benefits are not specific to the Proposed Transaction. In addition, in the counterfactual, there could also be a cooperative agreement between TPG and Optus relating to the sharing of spectrum in the RCZ (see further section 8 below).

152 Second, as discussed in the competitive effects section below, I believe that the Proposed Transaction will have a significant negative impact on dynamic network competition. This has implications for whether spectrum will be efficiently utilised over time in the RCZ.

153 In this regard, I note that dynamic competition concerns are an important factor when considering the appropriate allocation of spectrum in auctions. This was set out explicitly by Ofcom in the 4G spectrum auction that I referred to above when considering whether to reserve spectrum for the fourth MNO.

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111 The innovative use of spectrum floors in the UK 4G auction to promote mobile competition, Geoffrey Myers, LSE, Centre for Analysis of Risk and Regulation, Discussion Paper No: 74, November 2013, p 7.

112 Ibid., p 5.

113 See Doyle, §116 and §122.

114 See Doyle, §150.

> "[There is] *a trade-off between the potential static efficiency cost of reserving spectrum for a fourth* [MNO] *with lower intrinsic value and the dynamic benefits to competition and consumers if it acquires the spectrum".*[115]

154 In other words, in that specific context, Ofcom was considering whether it was appropriate to allocate spectrum to a fourth MNO even though it might not utilise the spectrum as efficiently in the short term compared to other MNOs (hence the reference to lower intrinsic value), because there were benefits from ensuring that the fourth MNO remained a credible competitor and, consequently, maintained the level of competition in the market (which Ofcom deemed the appropriate policy objective at that time from an economic efficiency perspective).

155 MNOs have incentives to improve the efficiency of spectrum use if that enables them to win market share and profits from less efficient and less innovative rivals. In contrast, and as explained above in the context of economies of scale, a monopolist, whilst being able to achieve the lowest unit cost in a static sense, may have little incentive to either seek further cost efficiencies or innovate in new products or service developments. This is directly relevant to future spectrum use.

156 Technology upgrades (e.g. 4G to 5G) provide increased capacity due to the higher spectral efficiency of the new technology in terms of MB/MHz. This is discussed in Dr Doyle's expert report and in an Ofcom paper that Dr Doyle cites.[116] This is also accentuated by newer RAN technologies such as Massive Multiple Input Multiple Output ("**mMIMO**") antennas. These technologies provide greater connection speeds (so providing a better user experience) but also improve spectral efficiency and, thereby, release greater capacity. To achieve these greater spectral efficiencies will require future investments by MNOs to implement these new technologies. Consequently, dynamic investment decisions by the MNOs will have a significant impact on the efficient future use of spectrum.

157 For the reasons above, in my view, it would be inappropriate for the ACCC to overly focus on static spectrum efficiency when considering the Proposed Transaction. Rather, the appropriate focus for the ACCC should be on competition and consumer outcomes. If the ACCC decides that spectrum efficiency is a relevant consideration, separate from an analysis of competitive effects, it should take a longer term perspective and consider how spectrum will best be utilised in the context of the competition that will result following the Proposed Transaction compared to the relevant counterfactual.

### *6.2.2 The efficiencies enabled by spectrum sharing*

158 The Applicants have argued that the spectrum sharing/pooling element of the Proposed Transaction will lead to more efficient usage of spectrum both inside the RCZ and in more rural areas.[117]

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115 Ofcom (2012) 'Assessment of future mobile competition and award of 800 MHz and 2.6 GHz'. Statement, 24 July 2012, §8.11.2

116 See Doyle, Section 3.2, where Dr Doyle reproduces Figure 16 from "*Mobile networks and spectrum: Meeting future demand for mobile data*", Ofcom (2022). Footnote 37 of the same report explains that the forecast spectral efficiencies "*are mainly driven by the configuration and number of elements and MIMO technology likely to be commercially available in base station and user equipment.*"

117 Application to the ACCC, §296.

159 I agree that there are benefits from the greater capacity enabled by spectrum sharing (albeit I do not consider these to be necessarily specific to the Proposed Transaction, see §151 above). For example, the additional spectrum provided by TPG would mean that Telstra will avoid incurring additional capital expenditure to build additional sites where it faces congestion and deploy additional network equipment.

160 However, as it is clear from the discussion above, in my view the critical question regarding the Proposed Transaction is its impact on competition and, ultimately, customer outcomes.

161 It is also relevant that, in the counterfactual, spectrum sharing may materially reduce the costs of Optus and TPG to provide capacity in the RCZ, which will also lead to reductions in future costs that Optus will need to incur in the RCZ (compared to a situation with no spectrum sharing).[118] These are also productive efficiency benefits.

162 The productive efficiency benefits in the factual and counterfactual scenarios should not be considered alone. They are one element of a wider assessment of the impact of the Proposed Transaction on competition.

## 6.3 The impact of network sharing on economies of scale and spectrum efficiencies

163 Network sharing agreements can reduce costs in multiple ways. For example, by combining and rationalising operators' portfolios of sites, there can be improvements in coverage and network quality.[119] From an output perspective, such efficiencies are likely to be greater the more sites that are retained as part of the network sharing agreement.

164 However, given the limited amount of site sharing that is contemplated in the Proposed Transaction, the two aspects of cost reduction resulting from network sharing (including spectrum sharing) that I believe have the most important impact on the competition assessment are the topics of this section: economies of scale and spectrum efficiencies.

165 With this in mind, I consider the impact on unit costs in the RCZ under different scenarios based upon modelling by Analysys Mason, which was commissioned by Optus.[120] Specifically, Analysys Mason have analysed the cost per GB of the Australian MNOs under a Telstra-TPG MOCN sharing agreement and under an alternative Optus-TPG MOCN sharing agreement. Both scenarios assume spectrum sharing.

166 I have read the model overview document prepared by Analysys Mason, although I have not reviewed the actual model. I understand Analysys Mason's work is based on their own expertise in network cost modelling, as well as certain key inputs from Optus (such as unit cost elements), the Australian Bureau of Statistics, the ACCC and from the Australian Communications and Media Authority. [121] As described by Analysys Mason, the model calculates the forward-looking costs

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118 Witness Statement of Kanagaratnam Lambotharan, §§151-155 and §§159-162.

119 "*Assessing the case for Single Wholesale Networks in mobile communications*", Frontier Economics, September 2014, p 3.

120 The analysis presented here is based upon the Analysys Mason report "*Network cost analysis of the Telstra–TPG agreement*", Analysys Mason, 24 October 2022 as well as an overview of its modelling approach "*Network cost analysis of the Telstra–TPG agreement – Model overview*", Analysys Mason, 24 October 2022.

121 "*Network cost analysis of the Telstra–TPG agreement – Model overview*", Analysys Mason, 24 October 2022, pp 6-16.

(both capital and operational expenditures) that need to be incurred by operators under different network sharing and traffic scenarios and calculates the resulting cost per GB. Analysys Mason explains that its analysis considers the specific geographic extent of the Telstra-TPG MOCN NaaS[122] in a granular way and considers capital expenditure requirements based upon the traffic levels modelled in each local area.

167 This is necessarily a stylised model[123] and my analysis does not depend on the specific values calculated by Analysys Mason, which I recognise may change somewhat if different assumptions are made. But, in my view, it appears to be a useful model for considering the specific question of the impact of the economies of scale and spectrum efficiencies on unit costs in the RCZ under different scenarios.[124]

168 Analysys Mason has considered a number of alternative scenarios which enable me to decompose two effects following a MOCN:

(a) First, the impact of largely static efficiencies from improved spectrum efficiencies and sharing of sites. To isolate this effect, Analysys Mason reports the cost reductions following the MOCN, while assuming the traffic shares of MNOs in the RCZ stay constant at current levels.[125,126]

(b) Second, the impact of economies of scale that follows from changes to MNOs' traffic shares over time following TPG agreeing a MOCN arrangement with either Telstra or Optus.

169 I summarise the results of Analysys Mason's analysis of the unit costs resulting from the Proposed Transaction in Table 6.1 below.

122 Australia is divided into 358 SA3 areas, 103 of those are in scope for the MOCN SaaS.

123 It is stylised because it abstracts somewhat from actual network build costs, by modelling how networks will be constructed in the RCZ in response to differing levels of traffic/demand.

124 The individual results in terms of $ per GB that I present in this section from the Analysys Mason model are not important on their own. What is important are the relativities between the different results. Even if there could be some disagreement as regards the specific inputs or assumptions that go into the model (e.g. as regards the capital and operating costs for different elements of network equipment), it is not evident that this would change the relativities. That gives me some comfort that this model is suitable for the purposes for which I use it.

125 There is a small impact of economies of scale because Analysys Mason combines the share of Telstra (or Optus) and TPG. However, because TPG's current share of subscribers in the RCZ is very low, [redacted] there is a relatively limited impact.

126 These are static efficiencies because the Analysys Mason model does not include any dynamic interaction between the MNOs. So, for example, take up of new network technologies (such as mMIMO) is assumed.

**Table 6.1: Net Present Value (FY[127]2023-30) of the MNOs' cost per GB (AUD cent/GB) resulting from a Telstra-TPG MOCN agreement**

| Effect | Optus | | Telstra | | Telstra-TPG MOCN | |
|---|---|---|---|---|---|---|
| | Unit Cost | Traffic Share | Unit Cost | Traffic Share | Unit Cost | Traffic Share |
| Static efficiency | [redacted] | | | | | |
| Economies of scale | | | | | | |

Source: "*Network cost analysis of the Telstra–TPG agreement*", Analysys Mason, 24 October 2022, pp 2-4.

170 There are a number of observations that follow from Analysys Mason's analysis:

(a) First, even without the effect of the network sharing agreement, [redacted]

(b) Second, under a Telstra-TPG MOCN agreement the spectrum and network efficiencies will lead to [redacted]

(c) Third, when taking into account the traffic share changes [redacted],[128] there are two important effects related to economies of scale.

(i) As Optus' share of subscribers falls [redacted] its average cost per GB increases [redacted]

(ii) As Telstra-TPG's share of subscribers increases [redacted] Telstra's average cost per GB decreases [redacted]

(d) [redacted]

127 FY = financial year. I understand that Optus' financial year ends on 31 March.

128 See section 7 below.

[redacted]

171 It is instructive to consider the impact on unit costs resulting from an Optus-TPG MOCN arrangement. I summarise the results of Analysys Mason's analysis of the unit costs resulting such an arrangement in Table 6.2 below.

**Table 6.2: Net Present Value (FY2023-30) of the MNOs' cost per GB (AUD cent/GB) resulting from an Optus-TPG MOCN agreement**

| Effect | Optus | | Telstra | | Optus-TPG MOCN | |
|---|---|---|---|---|---|---|
| | Unit Cost | Traffic Share | Unit Cost | Traffic Share | Unit Cost | Traffic Share |
| Static efficiency | [redacted] | | | | | |
| Economies of scale | | | | | | |

Source: "*Network cost analysis of the Telstra–TPG agreement*", Analysys Mason, 24 October 2022, pp 6-9.

172 A number of observations follow from this analysis:

(a) Under an Optus-TPG MOCN agreement the spectrum and network efficiencies will lead to [redacted]

(b) When taking account of assumed changes in share of traffic [redacted] there are two important effects related to economies of scale.

(i) As Optus-TPG's share of traffic increases [redacted] its average cost per GB falls [redacted]

(ii) As Telstra's share of subscribers falls to [redacted] Telstra's average cost per GB increase [redacted]

(c) In this scenario, Optus' unit costs are [redacted] Telstra's [redacted][131]

129 [redacted]

130

131

173 Analysys Mason's analysis highlights:

(a) the asymmetric impact of economies of scale, depending on whether there is a Telstra-TPG or Optus-TPG network sharing arrangement. [redacted] and

(b) the important role of spectrum efficiency and how there are spectrum efficiency benefits under either Telstra-TPG or Optus-TPG network sharing arrangements.

## 6.4 The Proposed Transaction risks Optus being unable to achieve sufficiently low unit costs to invest in 5G in the RCZ, thereby stifling dynamic competition

174 Following the reasoning set out above, a natural question is whether the Proposed Transaction, by making TPG more competitive, and by bringing TPG's volumes on to Telstra's network, will have a material impact on Optus' expected share of subscribers in the RCZ [redacted] At the same time, the Proposed Transaction would furnish Telstra with greater economies of scale as well as spectrum efficiencies, which would further reduce its unit costs, in a situation where it already has the most extensive coverage in the RCZ and benefits from [redacted] as well as a more developed rollout of the latest generation of 5G technology.

175 While greater scale for Telstra might be considered to be productively efficient, i.e. it reduces Telstra's unit costs in the RCZ, a clear concern is that Optus will be unable to compete effectively in future as regards network investment in the RCZ (and network in the RCZ is a critical element of competition in national retail and wholesale mobile markets). This would be an adverse effect on competition which would materialise as the impact of the Proposed Transaction [redacted] Moreover, the consequence is that dynamic competition between Optus and Telstra will be weakened, denying consumers the resulting benefits of [redacted]

176 Analysys Mason's analysis, while stylised, shows clearly the critical importance of economies of scale and spectrum efficiencies for assessing the impact on competition of the Proposed Transaction. According to Analysys Mason's analysis:

(a) Following the Telstra-TPG MOCN arrangement, [redacted]

(b) Following the Optus-TPG MOCN arrangement, [redacted] I

would expect there to be a significant positive impact on Optus' incentives to invest. Moreover, in this scenario, as Telstra and Optus [redacted] they are more likely to have the incentive and ability to compete harder to win share/profit from each other. This view is supported by Dr Padilla's analysis.[132] Consequently, in this scenario I would expect to see significant dynamic competition.

177 This is important because the history of the development of mobile technologies has shown that dynamic efficiency considerations are very important and should play a key role in well-functioning mobile markets, as networks compete against each other to be either the first to bring new network capabilities and services to the market, or at least not to be left in a technologically lagging position. So, for example, while Telstra could deploy 5G MIMO in its RAN, or future upgrades to 5G technology or, further in the future, 6G technology, it may not have an incentive to make those investments in the RCZ without the competitive drive to differentiate its services from those of Optus.

178 The ACCC should consider the extent of economies of scale in the RCZ and whether the Proposed Transaction, by increasing Telstra's scale at the network level, would exacerbate its existing advantages at the same time as reducing Optus' potential scale, disincentivising it from investing in 5G. This risks critically undermining the process of dynamic competition.

132 Dr Padilla refers to the work by Aghion et at all §5.46b. of his report. I agree with Dr Padilla's conclusion that if firms' products are closer substitutes, there are likely to be greater competitive benefits for the firms from making quality-enhancing investments.

# 7 The impact of the Proposed Transaction on network investment incentives in the RCZ

179 A potential concern as regards the Proposed Transaction is its impact on dynamic network competition between operators in relation to infrastructure investments in the RCZ. Specifically, whether following the Proposed Transaction Optus' incentives to invest in the RCZ would be weakened, leading to less investment by Optus and, in turn, by Telstra. The immediate concern is in relation to 5G [redacted] including specifically in the RCZ, which is the focus of the Proposed Transaction.

180 With that concern in mind, in this section I set out:

(a) My view of the appropriate analytical framework that should be used to assess whether Optus' decisions as regards its investments in the RCZ would be profitable.

(b) My review of the internal documents provided to me by HSF regarding Optus' plans for 5G network investment [redacted]

(c) My view of the impact on Telstra's network investment incentives in the RCZ following the Proposed Transaction.

## 7.1 The appropriate analytical framework to consider Optus' investment incentives

181 The Applicants' experts accept that network investment by Optus in the RCZ is a key driver of network investment by Telstra in the same region.[133] In my view that can be recast in the vertical-differentiation framework presented in section 5: Telstra has been seeking to differentiate its network quality from that of Optus so that Telstra can command a price premium over Optus and maintain its considerable market share advantage, with the consequence that network investments by Optus lead to a competitive reaction by Telstra. Consequently, to understand competitive dynamics, it is necessary to determine the impact of the Proposed Transaction on Optus' dynamic network investment incentives in the RCZ.

182 Evidently, Optus should only make network investments in the RCZ where the additional revenues that result from the investment will be greater than the costs (including a return on investment), both one-off and ongoing. Importantly, and following a game theory investment framework (i.e. considering the likely reactions of competitors to its decisions), when making the decision Optus should compare its profits with and without the investment, taking account of any reaction by competitors to its investments, and choose the most profitable strategy.

183 Consequently, as regards the impact on revenues, Optus should in principle consider in its appraisal the following impacts from infrastructure investment:

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133 For example, Feasey 1, §81 states "*I consider that Telstra's incentive to make investments in new features to differentiate its services is likely to be driven by the competition it faces from Optus*".

(a) any increase in the number of subscribers that reside inside the RCZ;[134]

(b) any increase in the number of subscribers that reside outside the RCZ, given the importance of coverage to some of these customers;[135] and

(c) any change in its prices due to the higher network quality provided by the investments (which, as prices are predominantly set nationally, would apply to all Optus' subscribers).[136]

184 In addition, if the risks under different strategies differ, Optus may wish to take that into account. One way to approach this is also to have regard to the overall level of capital investment required under different investment strategies as well as the overall returns to these investments, [redacted][137]

185 Optus' appraisal of each of these impacts needs to bear in mind the reaction of Telstra to its investments, but it may do this implicitly if it considers the resulting state of competition following any investments.[138] In particular, I would expect that an improvement in the overall quality of Optus' network in the RCZ is likely to lead to its rivals (particularly Telstra given its high share of subscribers) seeking to reduce customer switching to Optus by:

(a) in the short term, cutting their retail prices (or improving non-price aspects of their offerings[139]); and

(b) in the medium term, investing more in their network infrastructure in the RCZ.

186 In this regard, I note that the Witness Statement of Ms Rosmarin indicates that:

[redacted][140]

134 Any change in usage from subscribers should also be included if it can be monetised by Optus, for example through selling plans with increased data caps.

135 Again, also increased usage, to the extent it can be monetised.

136 I note that any increase of price by Optus due to its higher network quality in the RCZ may lead to some loss of subscribers in metropolitan areas who do not value this. This effect may limit the extent of any price increases.

137 [redacted]

138 If, in practice, Optus makes its investment assessment having regard to Telstra's announced plans as regards coverage growth, I note that Telstra could choose to scale back these plans if the competitive imperative to make investment is reduced.

139 See §67 above.

140 §34 of the Witness Statement of Kelly Bayer Rosmarin.

## 7.2 Optus' consideration of whether to invest in 5G in the RCZ

### *7.2.1 Optus' analysis of 5G investment prior to the Proposed Transaction being announced*

187 I have been provided with Optus' internal documents that set out how it assessed its 5G strategy prior to the announcement of the Proposed Transaction [redacted][142]

188 [redacted]

189 [redacted]

190 [redacted]

141 [redacted]
142
143
144
145 Witness Statement of Kanagaratnam Lambotharan, §§56-58 and §§71-85.
146 Witness Statement of Kelly Rosmarin, §11 and §§14-15.
147 Witness Statement of Kanagaratnam Lambotharan, §56.
148 Witness Statement of Yuen Kuan Moon, §47.
149 [redacted]
150

[redacted][151]

### 7.2.2 *Optus' analysis of 5G investment following the Proposed Transaction being announced*

191 Following the Proposed Transaction [redacted][152]

(a) [redacted]

(b) [redacted]

(c) [redacted]

192 [redacted]

193 [redacted]

151 See, for example, §39 of the Witness Statement of Kelly Bayer Rosmarin [redacted]

152 [redacted]

153 Witness Statement of Benjamin White, §154.

154 Ibid., §§156-165.

155 Ms Rosmarin states at §15 of her witness statement that [redacted]

[redacted]

194 [redacted] 157

[redacted]

195 [redacted]

196 [redacted]

156 Witness Statement of Benjamin White, §146.

157 [redacted]

158 Earnings before interest tax depreciation and amortisation, which is a measure of profitability. EBITDA – capex is often used by investors as effectively equivalent to the cashflow of the business and modelled in discounted cash flow analysis to arrive at the NPV.

159 [redacted]

[redacted]

197 [redacted]

[redacted]

198 [redacted]

### *7.2.3 The assumptions underlying Optus' analysis*

199 Mr White's witness statement includes a discussion of the underlying assumptions behind the results presented in the previous subsection. A number of these assumptions are noteworthy and I provide some commentary on these below.

160 [redacted]

200 I should highlight that my comments on the analysis are from my perspective as an economist with considerable experience of mobile markets. I have not been involved in preparing these figures, which are contextual to Australian mobile markets.

**Optus' assumptions regarding the impact of the Proposed Transaction on share of subscribers**

201 [redacted]

202 [redacted] [161]

[redacted]

Source: Witness Statement of Benjamin White, §164.

[redacted]

Source: Witness Statement of Benjamin White, §164.

203 [redacted] [162]

204 [redacted]

161 Witness Statement of Benjamin White, §163.

162 [redacted]

[redacted]

205 [redacted]

**Comments on certain elements of Optus' analysis**

206 Other elements of Optus' analysis also merit a brief discussion.

207 [redacted]

208 [redacted]

209 [redacted]

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163 The Witness Statement of Kelly Bayer Rosmarin emphasises that [redacted]

164 Applicants' experts expect TPG to take share from both Telstra and Optus. See Feasey 1, §89.

165 Witness Statement of Kelly Bayer Rosmarin, §34.

166 Witness Statement of Benjamin White, §157.

167 Weighted average cost of capital, which is a measure of the cost of financing a business with a certain risk profile, as reflected in the uncertainty regarding the future cash flows. It is widely used by utility regulators, such as the UK's communications regulator, Ofcom.

210 [redacted]

211 [redacted]

**Further refinement of Optus' modelling**

212 [redacted]

213 [redacted]

**Conclusion on Optus' modelling of 5G investments following the Proposed Transaction**

214 [redacted]

215 [redacted]

## 7.3 Telstra's investment incentives

216 Telstra's incentives to invest in its network in the RCZ in large part depend on the competitive benefits of such investment, for example to maintain the pricing premium associated with its network leadership. If Optus has strong dynamic incentives to invest, and invests materially in

168 Witness Statement of Benjamin White, §161.
169 Ibid., §160(e).
170 Ibid., §§175-176.
171 Ibid., §147.
172 Ibid., §192.
173 Ibid., §192, which concludes that [redacted]

the RCZ, this will stimulate investment by Telstra. This has been a central feature of infrastructure competition in the RCZ in recent years. However, if Optus' incentives to invest are reduced, then the competitive pressure on Telstra resulting from investments by Optus will be reduced.

217 In addition, I note that under the Proposed Transaction Telstra benefits from:

(a) spectrum efficiencies which provide it with significantly greater capacity;[174] and

(b) greater scale.

218 [redacted]

[redacted]

219 Not only is Optus' ability to compete materially weakened by its reduced scale, but the cost for Telstra to react to any competitive move by Optus is reduced (both by the scale effect and the spectrum efficiencies). Because Optus knows this, it will likely further reduce the incentive for Optus to make any investments in the regional areas [redacted]

220 While Dr Padilla seeks to argue that the spectrum efficiencies and greater scale for Telstra are benefits of the Proposed Transaction, this is a static assessment and **does not** take into account that the driver of investments by Telstra is competition from Optus. If the cost for Telstra making investments is reduced, that does not mean that Telstra will be incentivised to make such investments, unless Optus has invested and Telstra feels a competitive pressure to do so.[175] Thus, the increased asymmetry between Optus and Telstra disincentivises dynamic investments by both operators.

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174 According to Figure 7.1 of the CEPA Report, under the Proposed Transaction, Telstra will be able to: use its advantage in new low band spectrum (2x10MHz at 850MHz available from July 2024) to extend coverage in the RCZ with fewer base stations than Optus would require; and use its advantage in its currently under-utilised mid band spectrum to enhance capacity and data speeds with fewer densification sites than Optus would require.

175 [redacted]

## 7.4 Conclusions as to the impact of the transaction on investment competition

221 [redacted] its incentive to roll out 5G in the RCZ is considerably diminished by the Proposed Transaction, [redacted] This is consistent with the Proposed Transaction having a material negative impact on Optus' 5G investments, which would then have an impact on Telstra's own incentives to invest in its network in the RCZ.

222 [redacted] my view is that the Proposed Transaction is likely to harm dynamic infrastructure competition in the RCZ. However, to assess fully the effects of the Proposed Transaction it is necessary to compare Optus' investment incentives if the Proposed Transaction proceeds against the situation that would prevail in the counterfactual, which in my view is likely to involve a network sharing agreement between Optus and TPG relating to 5G in the RCZ (as set out in the following section).

# 8 The counterfactual to the Proposed Transaction and network investment incentives in the RCZ in that scenario

## 8.1 Introduction

223 In this section, I consider what would be the most likely counterfactual to the Proposed Transaction and what Optus' incentives to invest in 5G would be in such a scenario. More specifically:

(a) First, I review the ACCC's preliminary views on counterfactual scenarios.

(b) Second, I make a brief comment on the implications of a hypothetical more limited agreement between TPG and Telstra.

(c) Third, I consider Optus' and TPG's incentives to reach a network sharing agreement relating to 5G in the RCZ if the Proposed Transaction is blocked.

(d) Fourth, I discuss what specific form this agreement is likely to take.

(e) Fifth, I assess the impact on Optus' and TPG's investment incentives under this counterfactual.

## 8.2 The ACCC considered several counterfactual scenarios

224 In the SoPV, the ACCC assessed the likelihood of three main counterfactual scenarios.[176]

225 First, the ACCC considered the scenario where TPG would not enter a network sharing agreement with either Telstra or Optus. It considered two options:

(a) TPG would carry out a full scale build in the RCZ, which the ACCC considered commercially unlikely based on its review of third parties' and TPG's submissions.[177]

(b) TPG would pursue a more targeted investment strategy. The ACCC considered that, even though TPG would have some incentives to develop its coverage in the RCZ, in this scenario it would be likely to have unused spectrum and thus an incentive to monetise its unused spectrum in these areas.[178]

226 Second, the ACCC assessed the likelihood of a more limited agreement between Telstra and TPG as a counterfactual, as suggested by Telstra's expert, Mr Feasey.[179] While the ACCC notes that Telstra and TPG have not applied for an authorisation for any alternative network sharing agreement, it states that it is still considering the likelihood of such an agreement, the forms it may take, and the incentives of the Telstra and TPG to enter into such an agreement.

227 Third, the ACCC considered, as a possible counterfactual, a network sharing agreement between TPG and Optus.[180] This scenario was also considered by Dr Padilla, Mr Feasey, Ms Ihaia and Mr

176 SoPV, §5.4 et seq.
177 SoPV, §5.12.
178 SoPV, §5.16.
179 SoPV, §5.24.
180 SoPV, §5.17.

Houston. Because I consider this outcome the most likely in the absence of the Proposed Transaction, it is the main focus of this section.

228 The ACCC's SoPV acknowledges Optus' and TPG's incentives to enter a commercial agreement given the benefits to each, namely that TPG could extend its regional coverage and monetise its unused spectrum, as well as providing wholesale revenue to Optus.[181] The ACCC's preliminary assessment is that *"there is a real commercial likelihood that TPG and Optus would enter into either a network sharing agreement and/or a roaming agreement in the future without the Proposed Transaction"*.[182]

229 [redacted] there remain clear and rational incentives for Optus and TPG to reach a network sharing agreement relating to 5G covering the RCZ and it is, consequently, very likely that they would do so.[185]

230 As described by the ACCC, a TPG/Optus agreement could take many forms:[186]

(c) *"A **domestic roaming arrangement** – this may take the form of an updated roaming agreement, where the existing TPG/Optus agreement is renegotiated to extend beyond 3G services";*

(d) *"A **domestic roaming arrangement followed by active network sharing** – after a roaming agreement for a period of three to five years, TPG and Optus could move to a Multi-Operator RAN (MORAN) arrangement and then a MOCN arrangement, once there is sufficient maturity of 5G site clusters in regional areas";*

(e) *"An **active network sharing arrangement** – this may take the form of a MOCN or MORAN arrangement".*

## 8.3 A more limited agreement between Telstra and TPG

231 I first say a few words regarding the more limited agreement between Telstra and TPG.

232 It is not clear to me exactly what form of agreement is envisaged by Mr Feasey. However, if any agreement between Telstra and TPG leads to: (i) TPG improving its network coverage and quality significantly, enabling it to grow its share of subscribers in the RCZ considerably at the expense of Optus (and Telstra at the retail level, albeit Telstra would gain wholesale revenues); and (ii) consequently, appreciably increasing Telstra's share of subscribers at the network level, and

181 SoPV, §5.19.
182 SoPV, §5.19.
183 [redacted]
184
185
186 SoPV, §5.18.

reducing Optus' share of subscribers, I believe that such an agreement will be similar to the Proposed Transaction as regards the impact on Optus' investment incentives. Following the considerations in section 6, this would lead to Telstra benefitting from increased economies of scale and Optus suffering from lower scale.

233 While in principle a form of agreement could have less impact on Optus than the Proposed Transaction, this must come at the expense of TPG's competitiveness. For a more limited Telstra-TPG agreement to have less impact on Optus, this must mean that TPG wins less share from Optus.

## 8.4 TPG's and Optus' incentives to reach a cooperation agreement relating to 5G in RCZ

234 If both TPG and Optus gain from a network sharing arrangement, logically they both have an incentive to enter into an agreement to enable one. For that to be the case, there would have to be an increase in TPG's and Optus' joint surplus (i.e. their combined profits) and a negotiated outcome that divides that surplus between them so that each is better off under the agreement than they would be without it. Whether an agreement is feasible may also depend on other factors such as any constraints that each party is under, for example, in terms of its ability to raise capital.

235 Below I apply this analytical framework to consider whether Optus and TPG would reach an agreement if the Proposed Transaction were to be prohibited, I then consider the form that such an agreement might take. [redacted]

236 First, [redacted]

237 [redacted] there are benefits to sharing because the total costs would be lower for both Optus and TPG [redacted] there would be revenue benefits from such an agreement in addition because Optus and TPG would, collectively, be able to win business from Telstra. If the costs are lower and the revenues higher, there would be a joint surplus created by an agreement between Optus and TPG, and it would be rational for Optus and TPG to reach such an agreement.

238 [redacted]

187 [redacted]

[redacted]

239 [redacted]

240 The benefits to Optus (and TPG) relate directly to the significant economies of scale inherent in network rollout in regional Australia [redacted] that I considered in section 6, and the greater scale provided to Optus through an agreement with TPG.[192] Both because of the economies of scale (which are directly relevant to 5G rollout) and the spectrum efficiencies that would enabled if spectrum sharing is part of an agreement,[193] I would expect Optus to have strong incentives to enter into a network sharing agreement with TPG (either a more access-like agreement, such as a roaming agreement or a MOCN NaaS, or a JV created by Optus and TPG[194]) and roll out a 5G network faster and to a wider area than it would absent such an agreement, improving its network coverage and quality relative to Telstra.[195]

241 The impact on profits for Optus and TPG can be summarised as follows (compared to a scenario of no network sharing agreement between TPG and Optus):

(a) Optus and TPG gain subscribers (and profit) at the expense of Telstra.

(b) Both Optus and TPG reduce their unit costs.

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188 [redacted]

189 [redacted]

190 [redacted]

191 [redacted]

192 [redacted]

193 [redacted]

194 See Witness Statement of Benjamin White, §19, stating that Optus and TPG have already entered a joint venture arrangement since 2004, [redacted]

195 This is from the simple perspective of network investments becoming more profitable (lower unit cost) at higher scale, which I set out in section 6.

(c) TPG gains subscribers (and profit) at the expense of Optus.

(d) There would be payments between Optus and TPG (potentially reflecting spectrum sharing as well as any contributions to network rollout costs and any volume-related payments).

(e) Lastly there would be impacts from Optus and TPG becoming more competitive on price at the wholesale and retail levels. The overall impact of price competition on Optus' and TPG's profits is ambiguous: if both TPG and Optus improve their coverage and network quality this would tend to enable them to increase their wholesale and retail prices (reflecting that their services are more appealing to consumers and closer in quality to those of Telstra); however, this benefit for Optus would be offset at least partly by the impact of TPG becoming relatively more competitive with Optus and Telstra.

(f) There would be dis-synergies of network sharing, such as the cost of decommissioning sites.[196]

242 Impacts (a) to (d) are all positive or neutral for the joint surplus resulting from an agreement. Impact (e) is ambiguous and only impact (f) is negative.

243 Rationally, the parties would negotiate over how they would share the surplus created, and I would expect this to benefit both parties (and that may be reflected by the payments in (d) above).

244 [redacted]

245 [redacted]

246 In terms of the relative magnitude of the various elements, I note that Mr Feasey states that the revenues that Telstra expects to generate from the Proposed Transaction are $1.6-$1.8bn[198] over the first 10 years of the agreement (equivalent to (d) in §241 above). [redacted] It therefore seems likely that payments from TPG would provide Optus with a strong incentive to enter into a network sharing arrangement with TPG and have a considerable positive impact on Optus' investment incentives.

196 [redacted]

197 [redacted]

198 See Feasey 2, footnote 69.

**Other factors that might influence an agreement between TPG and Optus**

247 As regards other factors that might influence an agreement:

(a) TPG states that it is subject to material capital constraints.[199] In principle, that should not inhibit a network sharing agreement, if there are gains to be had. In particular, TPG could commit to make staged payments over time, so as to allow Optus to fund capital investment. [redacted]

(b) From a practical perspective, I note that Optus and TPG have reached network sharing agreements in the past, [redacted] currently have a long-term ongoing agreement since 2004. This is evidence that Optus and TPG have been able to reach agreements when they have deemed it to be in their commercial interests and, consequently, there would not appear to be practical non-profit considerations that would get in the way of a network sharing arrangement.[201]

**Conclusion on a TPG-Optus network sharing arrangement absent the Proposed Transaction**

248 For the reasons above, I consider that both Optus and TPG have strong incentives to reach a network sharing agreement that would include 5G absent the Proposed Transaction and I therefore consider that such an agreement would be the most likely outcome in absence of the Proposed Transaction.

## 8.5 Specific form a network sharing agreement might take

249 The ACCC is considering the likelihood of each counterfactual. A key question is the form that any network sharing arrangement between Optus and TPG would take. While there is inevitably some uncertainty on this point, in my view the factual evidence provides a number of helpful pointers to this.

[redacted]

250 [redacted]

251 [redacted]

199 Application to the ACCC, §26.

200 [redacted]

201 [redacted]

[redacted]

(a) [redacted]

(b) [redacted]

252 [redacted]

253 [redacted] it is in the interests of both TPG and Optus for an arrangement to cover future technology cycles and the ACCC will need to consider whether this should be part of its assessment of the counterfactual. As the Proposed Transaction does not include 6G, and there are potential concerns about Telstra's incentive to provide future technologies to TPG, this may suggest that the counterfactual would support a greater level of competition in the long term.[206]

254 [redacted]

255 [redacted]

202 [redacted]
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See, for an example, Binmore, K., Rubinstein, A., & Wolinsky, A. (1986). The Nash Bargaining Solution in Economic Modelling. *The RAND Journal of Economics*, 17(2), 176–188.

[redacted]

256 [redacted]

257 [redacted]

**Other factors that would influence the form that network sharing between Optus and TPG might take and the timing of implementation**

258 As regards, whether roaming or a form of active network sharing would be more attractive, I understand that there are material cost differences between scenarios of roaming and of active network sharing, whether that be a MOCN or MORAN arrangement. However, if the benefits from active network sharing agreements (over and above a roaming agreement) outweigh the costs of implementing these agreements, then it would be in the interests of both Optus and TPG to reach a form of active sharing agreement. The Applicants argue that there are significant benefits for TPG in terms of the product/service differentiation that it can achieve from the MOCN NaaS arrangement under the Proposed Transaction over and above a roaming agreement. If that is the case, and such an arrangement leads to a higher joint surplus for Optus and TPG, in the absence of the outside option of a deal with Telstra, I would expect TPG to be willing to contribute to the additional cost (either upfront or in phased payments over time), up to the aggregate benefit that it would expect from such an arrangement over a roaming agreement.

259 The options for an active sharing agreement include a joint venture under which TPG may have a greater influence on the development of the network than it would do under the MOCN Naas

211 [redacted]

212 [redacted]

213 [redacted]

214 [redacted]

215 [redacted]

arrangement in the Proposed Transaction, which could be beneficial for competition. In principle, while there could be potential issues as regards how well a network sharing JV would function,[216] I note that if the objective of the JV is clear and aligned with the objectives of TPG and Optus individually, for example to rollout 5G rapidly to the RCZ (within the capital constraints of both parties), such an arrangement is more likely to be successful. This is particularly likely to be the case if following the implementation of the JV, both parties are fully committed to the JV and have limited if any attractive outside options, [redacted] – this is an issue that has been considered in the academic literature.[217] Moreover, going forward the lack of good outside options, and the dependency of both parties on the JV to be successful to enable them to compete with Telstra, provides strong incentives for cooperation.

260 As regards the timing of the implementation of any cooperative agreement between Optus and TPG, [redacted]

261 If timing is an important factor and if roaming is easier to implement rapidly than an active sharing agreement, this might suggest that a roaming agreement (perhaps as a short-term transitional arrangement), is the best solution for Optus and TPG to increase their joint surplus.

**Spectrum leasing by Telstra is not specific to the Proposed Transaction so could form part of an Optus-TPG network sharing counterfactual**

262 [redacted] a spectrum leasing arrangement that was agreed between TPG and Telstra in metro areas in late 2021. I understand that the agreement is separate to the Proposed Transaction. This raises the obvious question of whether such an arrangement might be feasible between TPG and Telstra for some of TPG's regional spectrum if the Proposed Transaction were to be blocked.[219] There could be a range of possible outcomes in such a scenario with different amounts of spectrum leased, and perhaps for certain defined periods of time, which may be less than 10 years. If so, some of the spectrum efficiencies that are claimed by the Applicants do not appear to be Transaction specific.

**Conclusion on the form of the network sharing counterfactual**

263 In conclusion, while I cannot be sure what the outcome of negotiations between Optus and TPG would be, I believe it is likely that an active network sharing agreement, perhaps with a transitional roaming agreement, would be reached if that maximises the joint surplus of TPG and

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216 Supplementary expert report of Richard Feasey (Single version), 25 July 2022, §117. ("Feasey 2")

217 For example, Rey and Tirole emphasise that for successful JVs one important factor is limiting outside options and exit options. Rey, Patrick & Tirole, Jean, 2001. "*Alignment of Interests and the Governance of Joint Ventures*", IDEI Working Papers 441, Institut d'Économie Industrielle (IDEI), Toulouse.

218 [redacted]

219 I note that §13 of the Telstra/TPG application emphasises that an authorisation of spectrum to Telstra is capable of merger authorisation. I would expect that lease of more limited amounts of spectrum, for more limited periods of time, would be less likely to raise competition concerns. My reasoning is on the basis that more limited amounts of spectrum would leave TPG (outside a network sharing arrangement with Telstra) with access to a larger part of its current spectrum allocation (providing it with a greater ability to compete), and shorter time periods, would mean that it could access that spectrum in the future if it were to grow its share of subscribers materially.

Optus and, if the Applicants are correct that there is considerable value in an active network sharing agreement, it seems likely that this would be the case.

264 I also note that there is at least a possibility that an Optus-TPG active network sharing counterfactual may not be lower cost for TPG (i.e. in terms of the total financial contributions that it would need to make) compared to the Proposed Transaction, which would depend on an assessment of the overall terms of the Proposed Transaction against those that would be agreed in the counterfactual (see further section 9). However, that is not a determinative question when considering the authorisation of the Proposed Transaction. While TPG would understandably prefer to have a network sharing arrangement that provides it with a competitive network at lowest cost, such payments to Optus would also fund Optus' competitive network investment in the RCZ in competition with Telstra, and TPG's interests are a separate question to whether overall the Proposed Transaction is also in consumers' interests. And, as set out further below, in my view there is good reason to consider that the Proposed Transaction is likely to lead to less competition between networks and, consequently, worse outcomes for consumers.

## 8.6 Impact on Optus' and TPG's investment incentives under this counterfactual

265 Under a TPG-Optus network sharing agreement that includes 5G, as I believe it would, Optus would have an incentive to roll out 5G in the RCZ. This follows logically because Optus had an incentive to roll out 5G absent the Proposed Transaction, and any agreement with TPG will improve the commercial assessment of 5G rollout and enable Optus to be more competitive with Telstra as regards network coverage and quality in the RCZ.

266 As previously noted, the main driver for Telstra to invest in the RCZ is Optus' level of investment. Consequently, I would expect that Optus' reinforced investment incentives in the counterfactual scenario would itself lead to further investment from Telstra – for example, building its own 5G network further and/or faster in order to retain competitive advantage over Optus/TPG. This dynamic competitive process would bring benefits to customers of all networks.

# 9 The competitive effects of the Proposed Transaction

## 9.1 Introduction

267 This section sets out my views on the competitive effects of the Proposed Transaction, which depend on a comparison of competitive outcomes if the Proposed Transaction proceeds and in the counterfactual, which as I set out in the previous section, I consider would be a cooperation agreement between Optus and TPG relating to 5G in the RCZ.[220] I address the following issues:

(a) How does the Proposed Transaction affect dynamic network competition? Dynamic network competition is a key driver of market structure and investment incentives and, for the reasons explained below, a key issue raised by the Proposed Transaction is its effect on network competition in the RCZ.

(b) How are retail and wholesale markets affected by competition at the network level? This is important as these markets are vertically related, and it is therefore essential to assess competitive effects on an integrated basis.

(c) How should the Proposed Transaction's effects on price competition be assessed in retail and wholesale markets, given the effects on network competition? In this regard, I note the Applicants' experts' claims that the Proposed Transaction will increase retail and wholesale price competition depend on there being no adverse effects on network competition.

(d) How should claims that the Proposed Transaction will yield efficiencies be assessed?

(e) How should the overall competitive effects of the Proposed Transaction be weighed up? For the reasons explained below, I consider that the Proposed Transaction is likely to have similar short-to-medium-run effects on competition at the retail level as the counterfactual. However, as the Proposed Transaction would lead to substantial adverse effects on competition at the network level in the RCZ, which would commence immediately and increase over time, this would lead to a substantial lessening of wholesale and retail competition over time, including on price.

## 9.2 How does the Proposed Transaction affect dynamic network competition?

268 In some markets, an important aspect of how firms compete relates to their investments and efforts aimed at expanding or protecting their future profits, and I consider that this is crucial feature of competition in mobile markets.[221]

269 As described in section 3.1.7 above, I agree with the Applicants' experts that pre-Transaction there has been active network competition in the RCZ between Telstra and Optus. Competition at the network level, both inside and outside the RCZ, is a key driver of competition between MNOs at the wholesale level (competing for MVNOs) and retail level (competing for consumer, enterprise

220 The ACCC's Merger Guidelines describe this assessment of future competitive states with and without the merger as the "*with and without*" test (§3.16).

221 The CMA's Merger Assessment Guidelines address in some detail how mergers may reduce dynamic competition, see §§5.3-5.5 and §§5.17-5.24.

and government customers). The impact of network competition can be seen in the large retail price differences between operators reflecting differences in the geographic coverage and quality of their networks. I also agree with the ACCC's preliminary view that the latest manifestation of such dynamic investment competition arises in the context of MNOs' decisions to roll out 5G coverage.[222] [redacted]

270 In short, pre-Transaction Optus has made network investments in the RCZ, [redacted][223] In turn, Telstra has made investments to mitigate the risk of losing future profits to Optus. In such circumstances, it is appropriate to refer to the UK CMA's Merger Guidelines which caution that:

> *"A merger may reduce the incentives of dynamic competitors to continue with efforts to enter or expand, or the incentive of incumbent firms to mitigate the threat of future rival entry or expansion.* ***The impact of such a reduction in efforts would affect customers in the present****, rather than solely from the future point in time when entry or expansion has occurred.*
>
> *Losses of dynamic competition are more relevant when the investments involved in entering or expanding represent an important part of the competitive process, in industries where the process of entering markets takes place over a long period of time and involves significant costs or risks, or* ***where key aspects of the competitive offering are set during the investment phase rather than flexed on an ongoing basis****."*[224] *(My emphasis)*

271 Accordingly, a substantive question is how the Proposed Transaction is likely to affect Optus' ability and incentives to make investments in the RCZ, which would, in turn, affect Telstra's incentives to make competitive investments in the RCZ. In my view, this is not a matter that the Applicants' experts have appropriately addressed. For example, Dr Padilla observes that if Optus invests less post-Transaction it will lose market share to TPG[225] and its price premium would be reduced,[226] but that is evidently insufficient to confirm that Optus' incentives to invest are not adversely affected by the Proposed Transaction and that further investment by Optus in 5G in the RCZ would be profitable. This point is important because Telstra's incentives to invest in its network in the RCZ are likely to be based on Telstra seeking to maintain its competitive advantage over Optus.

272 In particular, such a process of dynamic investment rivalry depends on operators being able to achieve economies of scale (see section 6). Indeed, the Applicants' experts emphasise that TPG is not a constraint on Telstra at the network level due to the small scale of its network in the RCZ.[227] In this regard, there is also no dispute that in the RCZ, Telstra is the largest operator by a substantial margin, reflecting a combination of Telstra's first-mover advantages and economies of scale, particularly given the fixed costs of the large number of sites needed to provide coverage

222 SoPV, §§3.41-3.46.

223 TPG was also present in the RCZ and, according to the Applicants' submissions would increase its network infrastructure in the RCZ absent the Proposed Transaction.

224 CMA Merger Assessment Guidelines, §§5.3-5.4.

225 Padilla, §5.49.

226 Padilla, §5.55.

227 Feasey 1, §65.

of areas with low population density, including the RCZ which is the focus of the Proposed Transaction. Accordingly, [redacted] with these challenges being exacerbated by Optus (unlike Telstra) facing the high costs of replacing Huawei equipment. [redacted][228]

273 If the Proposed Transaction proceeds, then:

(a) TPG will largely exit the RCZ at the RAN level, and this share will transfer to Telstra's network;[229]

(b) TPG will win retail share in the RCZ and some of this retail share will come from Optus, which will transfer to Telstra's network (TPG may win some retail business from Telstra, but this does not affect Telstra's network share in the RCZ).

274 As discussed in section 7, Telstra's network share will thus increase and Optus' network share will thus fall. [redacted]

275 Accordingly, in my view, if the Transaction proceeds then this is likely to have substantial adverse effects on infrastructure competition with Optus losing economies of scale [redacted] This will lead to immediate competitive harm [redacted] This expectation of tangible harm is increased by the fact that Optus' investment incentives will be further reduced due to a combination of the following factors:

(a) Optus will be less able to win customers from Telstra to exploit any capacity constraints that Telstra faces, because these constraints will be relaxed by Telstra securing access to TPG's spectrum in the RCZ.

(b) Optus can expect a harsher competitive response from Telstra should Optus make investments to increase its share within the RCZ, which can be expected to reduce Optus' incentives to make investments in the first place. This is because the costs to Telstra of responding to Optus' investments will fall due to the Proposed Transaction, by virtue of Telstra gaining access to TPG's spectrum and due to the incremental economies of scale of carrying TPG's traffic in the RCZ lowering Telstra's average cost per GB (see section 6.3 above).

228 Witness Statement of Kanagaratnam Lambotharan, §§56-58 and §§71-85.

229 TPG will retain a core network, but it will be reliant on access to Telstra's RAN.

(c) Optus is likely to be less competitive as regards competition for Black Spot funding, because its average costs per GB within the RCZ will consequently have increased. This will lead to it losing further revenues.

276 Moreover, as emphasised in the introduction to this section, the competitive effects of the Proposed Transaction should be judged against the counterfactual. In the counterfactual, there are a range of ways in which TPG and Optus may cooperate with one another to deliver 5G in the RCZ, and these cooperative arrangements may evolve over time. As the ACCC's SoPV indicates, in this counterfactual Optus would benefit from additional revenues from TPG for access to Optus' network in the RCZ,[230] and such revenues would thus be foregone if the Proposed Transaction proceeds. This is an additional factor that compounds the anticompetitive effects of the Proposed Transaction.

277 This additional concern can be assessed in terms of whether the loss to Optus of these revenues from TPG would lead to customer foreclosure, namely that if the Proposed Transaction proceeds Optus will face higher costs due to economies of scale foregone. This is clear from the analysis carried out by Analysys Mason, which compares Optus' and Telstra's cost per GB in the RCZ if the Proposed Transaction proceeds and in the counterfactual of a cooperation agreement between TPG and Optus relating to 5G in the RCZ (see section 6). In this scenario, the competition concern is that absent the Proposed Transaction Optus would be a more effective competitor and Telstra would face greater competition on investment (i.e. network coverage and quality) and on price.

278 Concerns as to customer foreclosure are referenced in the ACCC's Merger Assessment Guidelines,[231] which indicate that they may be assessed by considering the merged entity's ability and incentives to engage in foreclosure and its competitive effects.[232]

279 In considering ability to foreclose it is important to consider the importance of the customer (i.e. the scale of the revenues foregone) and the extent to which the loss of these customer revenues would lead to Optus facing higher unit costs. As regards the first point, TPG is self-evidently unique as a customer – it is the third largest MNO in Australia, it had a national retail market share of 16% in December 2021, and the revenues resulting from a network sharing arrangement would make a substantial contribution to Optus' network costs in the RCZ. It is equally clear that there are substantial economies of scale (see section 6).

280 As regards Telstra's incentives to foreclose, there is no uncertainty that Telstra will be more profitable with the Proposed Transaction. A key part of the rationale for the Proposed Transaction (apart from access to TPG's spectrum in the RCZ and more remote areas) is for TPG to pay for access to Telstra's RAN in the RCZ, for which Telstra will receive revenues from TPG - and TPG will not therefore enter into a cooperation agreement with Optus as regards 5G in the RCZ. This point is accepted by Dr Padilla.[233,234]

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230 SoPV, §5.19.

231 ACCC Merger Guidelines, §5.24.

232 Ibid., §5.23.

233 Padilla, §6.58.

234 Because Telstra will lose share to TPG under the Proposed Transaction, for the arrangement to be profitable it could be the case that Telstra needs to rely on the additional positive impact on its profit from foreclosing Optus (such profit would be related to, for example, future investments in the RCZ that Telstra would not need to make following the Proposed Transaction) due to the reduction in dynamic network competition. It is, however, not necessary to consider the source of the profits for Telstra – the Applicants accept that the Proposed Transaction is profitable for Telstra.

281 Turning to the competitive effects at the network level (the next sub-section addresses retail and wholesale effects), it is instructive to compare market structure in the RCZ if the Transaction proceeds against the counterfactual. It is difficult to predict with accuracy Optus' network share in the RCZ in the counterfactual (not least as it depends on the exact scope of Optus' cooperation agreement with TPG and Telstra's reaction to greater competition in the RCZ), but my expectation is that Optus' share at the network level would increase materially from its current level of [redacted] (TPG has a current share of [redacted] of subscribers in the RCZ and TPG's share of subscribers would be expected to increase over time). In contrast, if the Proposed Transaction proceeds Optus expects [redacted] Moreover, if the Proposed Transaction proceeds, Optus [redacted] This conclusion is further reinforced as in the counterfactual Optus' investment incentives will increase because it will not suffer from the various factors identified at §275.

## 9.3 How are retail and wholesale markets affected by competition at the network level?

282 A point well made in the ACCC's Merger Guidelines is that:

> *"Where merger parties are vertically integrated or compete against vertically integrated firms, the ACCC must determine whether competition analysis is best conducted in the context of one relevant market encompassing the whole vertical supply chain or a series of separate markets each comprising one or more stages of the chain. This delineation depends on the economics of integration."*[235]

283 In the present case, I consider that there are strong economic links across the supply chain. MNOs account for some 91% of the retail mobile market and 100% of the wholesale market, and MNOs' offerings are highly vertically differentiated with Telstra's price premium over Optus and TPG reflecting their relative network coverages and qualities (amongst other factors). I thus agree with the description in the ACCC's SoPV of retail and wholesale competition being driven by network competition, including as regards the rollout of 5G.[236]

284 In this regard, it is important to be clear as to the impact of the Proposed Transaction on Telstra's profits and competition if network competition from Optus in the RCZ is reduced [redacted]

(a) I agree with the Applicants' experts and the ACCC's SoPV that Telstra's incentives to invest in the RCZ are driven by network competition from Optus. Given the generally lower expected returns on network investment in regional and remote areas (as noted in the ACCC's SoPV),[237] Telstra would save substantial sums if it were to be able to reduce its expenditure in the RCZ. In this regard, [redacted] TPG will have exited at the RAN level in the RCZ (for 10 years and possibly up to 20 years) and Optus' ability to

235 ACCC Merger Guidelines, §4.42.
236 SoPV, §3.7, §3.9, §3.11-3.20, and §3.41-3.46.
237 SoPV, §3.26.

achieve economies of scale [redacted] particularly relative to the counterfactual of an Optus-TPG cooperation agreement in the RCZ relating to 5G. [redacted]

(b) I agree with Dr Padilla that if Optus reduces its investment then this will reduce its relative prices (as noted at §271 above), with the corollary of this being that Telstra's price premium will be increased. This is an anticompetitive effect. TPG, which currently sets the lowest prices, may be able to compete more strongly with Telstra (and Optus), but I expect that given TPG's lower share of subscribers in the metro and metro fringe areas (see Figure 3-5 above) and inferior quality (as recognised by Dr Padilla at §3.19 of his report), it would not be as effective a competitor to Telstra as Optus. [redacted].[238] In short, there would be an anticompetitive benefit to Telstra if it could reduce price competition from Optus as its closest rival.

(c) I agree with the ACCC's SoPV that effective infrastructure competition between MNOs may drive down wholesale prices for MVNOs, enabling them to offer lower prices in downstream retail markets.[239] [redacted] I would thus expect that if MNOs are prepared to offer access to 5G to MVNOs, their wholesale prices for such access would be higher if the Proposed Transaction proceeds.[240] In this regard, I note that Mr White states that Telstra had not in the past wanted to provide access to its network in regional areas to MVNOs and it was, in part, on that basis that Optus had thought that Telstra would not be prepared to offer such access to TPG.[241] In addition, Dr Padilla reports that no independent MVNOs offer 4G coverage in remote areas of Australia where Telstra is the only network operator.[242] It is, consequently, unclear whether post-Transaction Telstra and TPG would choose to offer MVNOs 5G wholesale network access at all in the RCZ or potentially only at uncompetitive, high wholesale prices.

285 Turning to the impact of the Proposed Transaction on investments outside the RCZ, in the counterfactual, where Optus has a better network and is more competitive, and TPG has access to this better network, there will be three operators that will have access to competitive 5G network infrastructure in the RCZ. [redacted] The greater closeness of competition between Telstra, TPG and Optus in the counterfactual, as regards the quality and coverage of their network

238 It takes time for shares to change.

239 SoPV, §3.31.

240 MVNOs typically go out to tender with various MNOs [redacted] Optus is differentiated from Telstra at the network level and does not have to pay a wholesale usage charge for access to Telstra's RCZ, unlike TPG.

241 Witness Statement of Benjamin White, §77(c).

242 Padilla, Table 1 on p 12.

offerings to customers, compared to if the Proposed Transaction proceeds, is likely to lead to greater levels of competition between the operators and, specifically, greater investment by each of the operators, including outside the RCZ. I note that Dr Padilla agrees with me that greater closeness of competition is likely to lead to increased incentives to invest.[243]

286 Accordingly, I consider that anticompetitive short- and long-term harm at the network level will manifest into short- and long-term anticompetitive harm at the wholesale and retail level.

## 9.4 The effects of the Proposed Transaction on price competition at the wholesale and retail level

287 First, as part of the Proposed Transaction TPG will enter into a 10-year agreement (with potential extensions) with Telstra relating to access to Telstra's network in the RCZ. This does not and cannot remedy any dynamic loss of competition at the network level. [redacted] Having TPG as a retailer and wholesaler of services based on access to Telstra's 5G RAN in the RCZ does not and cannot address this loss of dynamic network competition.

288 However, if the Proposed Transaction proceeds, TPG's retail offering will improve in the RCZ, and it will be able to offer access to Telstra's network in the RCZ, subject to various competitive limitations (i.e. the wholesale terms that have been agreed with Telstra). My main comments (disregarding the various competitive limitations) relate to whether this competitive outcome is superior to the counterfactual in which TPG and Optus enter into a cooperation agreement relating to 5G in the RCZ.

289 The Applicants' experts consider that it is unambiguous that short-run retail price would be greater if the Proposed Transaction proceeds, based on a combination of various instructions and premises. In particular, Dr Padilla asserts that variable charges to TPG are apparently lower than those he has been instructed to adopt in the counterfactual (albeit he accepts that the Proposed Transaction is unlikely to impact national prices through costs as 80% of the population live in urban and suburban areas);[244] that the counterfactual he has been instructed to adopt involves lesser TPG/Optus cooperation than TPG/Telstra (based on his instructions, Dr Padilla observes that TPG provides 5G much "*more quickly*" with the Proposed Transaction than in the counterfactual);[245] and Optus' network in the RCZ is smaller than Telstra's. [246]

290 I do not consider that the situation is so clear, even in the relatively short term.

(a) In the counterfactual, both Optus and TPG will be able to offer competitive 5G retail services in the RCZ, [redacted] While the precise scope and timing of the availability of such 5G services to TPG will depend on commercial negotiations between TPG and Optus, [redacted]

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243 Padilla, §5.46b: "*The insight I draw is that the more that competitor's products are closer substitutes, the greater are likely to be the benefits for firms to make quality-enhancing investments because such investment will attract more customers from rivals when customers are more willing to switch between these rivals' products*".

244 Padilla, §6.3-6.9.

245 Padilla, §6.10.

246 Padilla, §6.18.

[redacted] 247,248

(b) [redacted] Optus' ability to compete for 5G customers in the RCZ, [redacted] would be hampered.

(c) Evidently the impact of the Proposed Transaction on Optus' ability to compete for 5G customers [redacted]

(i) In the counterfactual, there will be 3 competitors (Telstra, TPG and Optus) that can offer consumers a 5G service that includes material network coverage and quality in the RCZ.

(ii) [redacted]

(iii) In the counterfactual it seems likely that there would be greater price competition than under the Proposed Transaction in the short-to-medium term. However, it is difficult to be definitive as the precise impact on price competition will depend on the extent of network rollout by Optus and Telstra in the counterfactual (compared to under the Proposed Transaction), which will depend on competitive interaction between them.

(d) Consequently, a cautious assessment is that there will be similar short-to-medium term impacts on retail competition in the counterfactual as there would be under the Proposed Transaction. The exact picture changes over time, dependent on the degree of 5G network rollout by Telstra and Optus in the different scenarios.

291 In the medium term, [redacted] there would be significantly reduced retail and wholesale competition,

247 [redacted].

248 The application to the ACCC , §§17-18, mentions that "*the Applicants expect to be in a position to implement the Proposed Transaction by the end of the year* [2022]". It also explains, §212, that "*Telstra is required to make 5G available to TPG at a particular site in the 17% Regional Coverage Zone 6 months after the site was activated for 5G*". [redacted]

249 [redacted]

including on price, compared to a counterfactual in which Optus has rolled out an extensive 5G network (which TPG has access to).

292 I have not specifically assessed the impact on different segments of the retail market. However, I note that:

(a) prices are set nationally and a reduction in competitive intensity between MNOs would be expected to lead to some price increases for all retail customers;

(b) reduced network investment in the RCZ by both Optus and Telstra would lead to reduced quality for all retail customers. I expect that this would have a larger impact on customers that reside in the RCZ or place a high value on network coverage and/or quality in the RCZ; and

(c) reduced network investment outside the RCZ by all MNOs (because Optus would not compete as closely with Telstra and TPG under the Proposed Transaction as compared to the counterfactual) would lead to reduced quality for all retail customers.

293 For the reasons set out at §284(b), I consider that if Telstra and TPG are willing to offer MVNOs 5G wholesale access under the Proposed Transaction, they would be more likely to do so at uncompetitive prices compared to the counterfactual.

294 Second, I do not consider it prudent to reach definitive conclusions as to the precise terms of a counterfactual agreement between TPG and Optus, [redacted]

295 Third, even if TPG were to pay a higher variable charge to Optus in the counterfactual than it has agreed to pay Telstra under the Proposed Transaction,[251] the impact that this effect would have on competition cannot be judged in isolation. The overall impact on competition needs to take into account that higher access charges would fund further network investment by Optus, improving the quality of network available to both Optus and TPG.

296 Fourth, there are some fundamental differences between Telstra's and Optus' competitive incentives in relation to any cooperation agreement with TPG, which are likely to affect both contractual terms and how contracts are implemented in practice. Optus is a substantially smaller competitor than Telstra in the RCZ and nationally:

(a) Smaller firms have natural incentives to seek to set lower prices as they will steal more business from their rivals than market leaders.

250 [redacted]

251 I'm unable to take a view on whether TPG would be more likely to pay a higher variable charge to Optus in the counterfactual than it has agreed to pay Telstra, based upon the information available to me. I do not know the precise form that a network sharing agreement between Optus and TPG would take in the counterfactual and I do not know what terms TPG has agreed with Telstra.

(b) Optus is likely to value TPG's additional revenues more than Telstra: the reduction in average costs for additional subscribers is greater the lower the pre-existing share of subscribers in the RCZ.

297 These factors would appear to create a material degree of mutual dependency between TPG and Optus.

298 Conversely, TPG will be dependent on Telstra's RAN in the RCZ post-Transaction – TPG will have exited the RCZ at the RAN level (certainly for 10 years and perhaps 20 years under the Proposed Transaction) [redacted] This arguably leaves TPG almost entirely dependent on contractual protections, which is presumably why the Proposed Transaction agreements are for a minimum of 10 years. However, there are natural limitations to these contractual protections (in addition to those already explicit from what has been disclosed):

(a) Contracts are inherently incomplete in that situations will arise that were not originally envisaged, and commercial renegotiation would be justified. For example, if market prices decline this might justify a fall in TPG's rates or new technologies might be developed that are outside the scope of the agreement (e.g. developments in 5G technologies or 6G in 8-10 years' time).

(b) TPG would appear to have little bargaining power in this scenario.[252] Telstra would appear to have a much stronger bargaining position, which may provide it with unilateral power to agree (or not) to any such changes, and it will have no incentive to cede profits to TPG.

299 Moreover, TPG may be mindful that active competition with Telstra, as the market leader by a substantial margin, might compromise its cooperation agreement with Telstra, either in terms of its day-to-day operation or Telstra's incentives to amend it or extend its scope.

300 These considerations may justify the ACCC attaching limited weight to TPG's contractual protections. Indeed, the CMA's Merger Assessment Guidelines state exactly this, even if contracts for the supply of inputs cover current inputs and future upgrades, explaining that:

> "*In practice, such contracts may not completely remove a firm's ability to harm its rivals, given that certain rivals might not be covered by these contracts, the contracts might not protect all ways in which the competitiveness of rivals could be harmed, and the contracts may be of limited duration. Moreover, over time contracts may be renegotiated or terminated, and firms may waive their rights to enforce any breaches in light of their overall bargaining position (reflecting the change in market structure brought about by a merger). However, the CMA may consider any financial or reputational costs of terminating contracts in its assessment of foreclosure incentives.*"[253]

252 I note that TPG refers to future technologies such as satellite as providing it with additional options in future. This seems speculative, and I treat it as such above, but I imagine will be an area that the ACCC will wish to consider.

253 CMA Merger Assessment Guidelines, §7.15.

## 9.5 How should efficiencies be assessed?

301 Dr Padilla argues that the Proposed Transaction would yield three different forms of efficiency benefits:

(a) More efficient utilisation of spectrum.

(b) Up to an additional 169 sites added to the Telstra network in the RCZ.

(c) A greater level of investment by Telstra.

302 Before considering each of these claimed efficiencies in turn, I note that the ACCC's Merger Guidelines indicate that:

> *"The ACCC generally only considers merger-related efficiencies to be relevant to s. 50 merger analyses when it involves a significant reduction in the marginal production cost of the merged firm and there is clear and compelling evidence that the resulting efficiencies directly affect the level of competition in a market and these efficiencies will not be dissipated post-merger."*[254]

303 The ACCC refers to reductions in marginal costs, because such cost savings are more likely to be passed onto customers in the form of lower prices (rather than other cost savings that simply increase the profits of the firms involved) and more generally that the key issue is whether such efficiencies increase competitive rivalry. Logically, this requires that there is compelling evidence that any claimed efficiencies are both merger specific and sufficiently material to offset anticompetitive effects.

304 In my view, the bulk of efficiencies claimed are not specific to the Proposed Transaction, and are either overstated or a source of anticompetitive harm, and insufficient to offset the anticompetitive effects identified above.

305 I do not consider that the bulk of these claimed efficiencies are Transaction specific.

(a) As regards spectrum, as an alternative to the Proposed Transaction, TPG would have incentives to lease unused spectrum to Telstra or otherwise monetise its spectrum (as observed in the ACCC's SoPV).[255] [redacted]

(b) As regards sites, some of TPG's sites would also be of value in the counterfactual, and potentially more of these sites could continue to be used by Optus/TPG in the RCZ as Optus has fewer sites in this area.

(c) Similarly, in the counterfactual, I consider that there would be substantial gains for both TPG and Optus agreeing a network sharing arrangement, which would boost Optus' investment in its 5G network. I believe that sharing with TPG is likely to have a considerably

254 ACCC, Merger Guidelines, §7.65.
255 SoPV, §5.16.
256 Witness Statement of Kanagaratnam Lambotharan, §§152-153.
257 See section 6.3 above.

> greater impact on Optus' 5G investments (under an Optus-TPG network share) than there would be on Telstra's investment (under a Telstra-TPG network share). Any impact on Telstra investment incentives results from static considerations and does not take into account the impact of reduced dynamic network competition from Optus on Telstra's investment incentives. Moreover, the benefit to Optus from greater scale is considerably more than for Telstra, [redacted][58]

306 Dr Padilla overstates the efficiency benefits of spectrum sharing in terms of avoided investment costs.[259] In particular, Telstra would not be expected to enable all the spectrum on all the sites. Dr Padilla argues that the increase of capacity of 39% would be equivalent to 1441 sites and quotes the capex cost of such rollout.[260] This significantly overstates the benefits. It would not make sense for Telstra to increase its number of sites by 39%. Telstra would only need to have more sites where there is congestion and there are not lower cost solutions to increasing capacity, such as using additional network equipment at other frequencies.[261]

307 In any case, the figures that Dr Padilla exhibits for the MHz per SIO provide a short-term perspective.[262] It is appropriate to consider market shares in the medium term when considering MHz per subscriber. Congestion is part of the dynamic process of competition that:

(a) provides Optus with a strong incentive to win customers from Telstra through providing capacity where Telstra's network is congested. As discussed in section 7, I consider that this claimed efficiency benefit actually reduces Optus' incentives to invest in the RCZ; and

(b) provides Telstra with an incentive to improve its network to provide greater capacity.

In the medium term, congestion sends the right signals to operators to compete with each other.

308 I note that Dr Padilla refers to evidence that there is more congestion in regional areas than is in metro areas (which Optus disputes).[263] This raises a question whether such congestion is symptomatic of a lack of network competition in regional areas and, consequently, that Telstra does not have the same competitive imperative to improve its network in regional areas as it does in metro areas. While I understand that Telstra's share of subscribers is higher in regional areas, it can use the same methods to increase capacity in regional areas as it does in metro areas (see §68 above), so it is unclear to me why Telstra appears to have ensured that its network does not suffer from congestion in metro areas but not done so in regional areas.

309 The addition of up to 169 TPG sites to Telstra's network is immaterial. This would only increase Telstra's number of sites in the RCZ by at most 5% (3,869/3,700).[264]

310 Lastly, the key investment incentive that Dr Padilla identifies is that Telstra would benefit from revenues from TPG, which he admits would otherwise benefit Optus. This is anticompetitive foreclosure, not a procompetitive benefit. For the reasons discussed above, I consider that the

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258 See sections 6.3 and 6.4 above.
259 Padilla, Table 5 on p 32.
260 Padilla, §5.15.
261 Doyle, §191 and §197.
262 Padilla, §5.21.
263 Padilla, §5.6.
264 Padilla, Table 5 on p 32.

Proposed Transaction will reduce the competitive pressure on Telstra to make network investments in the RCZ.

## 9.6 How should the overall competitive effects of the transaction be weighed up?

311 For the reasons explained above, I consider that the Proposed Transaction is likely to have similar short-to-medium run effects on competition at the retail level as the counterfactual. However, as the Proposed Transaction would lead to substantial adverse effects on competition at the network level in the RCZ, which would commence immediately and increase over time, this would lead to a substantial lessening of wholesale and retail competition over time, including on price.

# 10 Comparison of my views to those of the Applicants' experts

312 In order to assist the ACCC to understand how my views differ from those of the Applicants' experts, Dr Padilla and Mr Feasey, in the table below, I compare their views with my own on various important aspects relevant to assessing the impact of the Proposed Transaction on competition.

313 I do not consider it necessary or helpful to respond to all of the points that Dr Padilla and Mr Feasey make in their reports.[265] Instead I focus on the key points that I consider clarify the differences between their views and mine.

| | Padilla and Feasey | Hunt |
|---|---|---|
| **Key factors affecting the analysis of competitive effects** | | |
| **Economies of scale** | Feasey 1: Mobile networks involve fixed costs that represent a significant proportion of costs borne by customers. Sharing these costs allows economies of scale to be realised. The benefits of lower costs can be significantly greater in less densely populated areas (§11). | The static impact of economies of scale on unit costs is a larger effect for smaller operators. This will have a greater impact on unit costs of Optus in the counterfactual than it will on unit costs for Telstra under the Proposed Transaction.<br><br>In addition, the lower unit costs resulting from economies of scale will have a greater impact on consumer outcomes the greater the level of competition between MNOs. Consequently, economies of scale matter more in the presence of dynamic competition (see §139). |
| **Spectrum** | Padilla: The Proposed Transaction will bring greater spectral efficiency (§§5.12-5.14). | Spectrum is an input not an output. What matters is how spectrum use affects consumer outcomes (prices and service quality). In the medium term, I would expect spectrum to be more efficiently used if there is strong dynamic competition between MNOs that drives efficient usage.<br><br>Following the Proposed Transaction, as Optus will be a significantly weakened competitor, both Telstra and Optus will have less incentive to roll out new technologies with greater spectral efficiency.<br><br>Any relief of congestion will also tend to have a greater impact on consumer outcomes the more competition there is. In any case, congestion is an important part of the competitive process, driving Telstra to improve its network and other operators to provide a good service in order to win customers from Telstra.<br><br>In any case, absent the Proposed Transaction, TPG may have an incentive to trade or lease spectrum where it is most efficient (and such a transaction may not raise material competition issues) (see §262 and §305(a)). |

265 Where I do not directly respond to particular points raised by Dr Padilla and Mr Feasey in their reports, it should not be taken to mean that I agree with them.

| | | |
|---|---|---|
| **Vertical product differentiation** | Padilla: Networks are differentiated by a wide range of factors for consumers with different preferences (§5.26).<br>Feasey 1: Networks compete on a range of services and qualities including, but not limited to, coverage (§73). | This is an important feature of the relevant markets that is accepted by all experts (see §109). |
| **Vertically related markets** | Padilla: Impact on investment needs to be considered (§5.33).<br>Feasey 2: Investments in networks determine other outputs such as the price, quality and volumes of services that are supplied (§31) | Competition in retail and wholesale markets depends upon the infrastructure available to each firm when they are competing. Consequently, the impact of the Proposed Transaction on network investment, in particular in the RCZ, is critical to understanding competitive effects in retail and wholesale markets (see §105). |
| **The Proposed Transaction's impact on investment** | | |
| **Impact on TPG's investment in RCZ** | Feasey 2: Proposed Transaction will remove incentive for TPG to invest in the RCZ (§79). | It is uncontroversial that TPG under the Proposed Transaction will stop investing in its RAN in the RCZ and will decommission its infrastructure (or sell/lease a limited number of sites to Telstra) (see §94(a)). |
| **Impact on Optus' investment in RCZ** | Padilla: The Proposed Transaction will put competitive pressure on Optus to make quality-enhancing investments (§5.49).<br>Feasey 1: Optus will continue to have incentive to invest irrespective of the Proposed Transaction (§69).<br>Feasey 2: TPG 'leapfrogging' would cause Optus to redouble efforts in RCZ coverage (§90).<br>Feasey 2: Optus' incentives to invest will be lower under a network sharing counterfactual (since benefits will be shared with TPG) than under the Proposed Transaction (§94e).<br>Feasey 2: Telstra network effect (e.g. the effect of the transaction on Telstra's competitive position relative to Optus, which is to widen the gap in network capability between the two firms) will incentivise Optus to invest more in its network so as to be able to continue to compete more effectively with Telstra. (§95).<br>Any network advantages Telstra derives from the transaction will be of limited significance and their effect on Optus' investment incentives can be expected to be similarly modest (§96).<br>Feasey 2: Any additional Optus investment as a result of network sharing with TPG in the counterfactual will be relatively trivial (§101, §104). | Investment incentives cannot be assumed in the abstract. A firm may wish to be more competitive with a rival. However, if it is not profit maximising to make the investments, the firm will not make them.<br><br>It is uncontroversial that TPG will win share of subscribers from Optus and, consequently, Optus' scale at the network level in the RCZ will decrease.<br>[redacted]<br><br>The effect on Optus' investment incentives is immediate and will affect competition [redacted] (see §275).<br><br>Furthermore, in a counterfactual of a network sharing agreement between Optus and TPG, Optus' scale would increase and it would benefit from spectrum efficiencies. Optus' investment incentives would increase materially (see §276). |

| | | |
|---|---|---|
| **Impact on Telstra's investment in RCZ** | Padilla: The Proposed Transaction will improve Telstra's incentives for further 5G investment in the RCZ (§§5.44-5.45).<br>Padilla: Within the 17% Regional Coverage Zone, Optus already is largely present. As such, Telstra will face competition from Optus (§6.57).<br>Feasey 1: The Proposed Transaction in itself will have insignificant impact on Telstra's investment incentives compared to competitive pressure from Optus (§65). | Telstra's incentives to invest in the RCZ depend on competition from Optus, and there is no disagreement on that between the experts (see §88).<br>[redacted] there will be less investment by Telstra over time.<br>The static effect that Dr Padilla points to must be seen in that context – it is highly unlikely that it will have an impact on investment without there being a competitive stimulus for Telstra to make additional investment (see §220 and §284(a)). |
| **Impact on investments outside the RCZ** | Padilla: The Proposed Transaction will incentivise investment outside of the MOCN by TPG (§5.39) and by Telstra (§5.46). | In the counterfactual, where Optus has a high quality and more extensive RAN in the RCZ and is more competitive, and TPG has access to this network, there will be three operators that will have access to competitive network infrastructure in the RCZ. [redacted] The greater closeness of competition in the counterfactual, compared to the factual, will lead to greater investment outside the RCZ (see §285). |
| **The Proposed Transaction's impact on prices** | | |
| **Impact on price competition** | Padilla: The Proposed Transaction is unlikely to impact prices through RCZ costs (§6.3) as these are set at a national level (§6.4), but quality-adjusted prices will fall due to greater competition between three competitors (§6.22). | It would be inappropriate to focus overly on short-term price effects. The bigger impact of the Proposed Transaction is on investment by Optus (and, consequently, Telstra) [redacted]<br>In the short-to-medium term:<br>• in the counterfactual Telstra, TPG and Optus will be able to offer consumers a 5G service that includes extensive network coverage and quality in the RCZ; in contrast,<br>• [redacted]<br>Consequently, it seems likely that there will be greater price competition in the counterfactual in the short-to-medium term (although it is difficult to be definitive about this as it depends |

| | | |
|---|---|---|
| | | precisely on the extent of network rollout in the different scenarios).<br><br>The extent of the impact on price competition will increase progressively over time. In the medium term, there will certainly be substantially greater price competition in the counterfactual than there would under the Proposed Transaction (see §§290-291). |
| **Price competition from Optus** | Padilla: Under the Proposed Transaction Optus will remain a strong competitor (§6.34).<br>Feasey 2: the Proposed Transaction will not leave Telstra as a significantly stronger or more distant competitor to Optus relative to the status quo and, similarly, a network sharing arrangement between Optus and TPG will not leave Optus a significantly stronger or closer competitor to Telstra relative to the status quo. Any short-term effect on price competition between Telstra and Optus arising from comparison between the factual and the counterfactual will therefore be similarly insubstantial. (§67). | It is incorrect to assert that price competition from Optus will not be weakened if the Proposed Transaction proceeds, as this assumes that Optus' investment incentives are unaffected.<br><br>The greater infrastructure competition that will ensue in the counterfactual will lead to Optus, TPG and Telstra being closer competitors than they would be in the factual (where Optus is materially weakened). Consequently, there would be greater price competition and lower quality-adjusted prices in the counterfactual (see §285). |
| **Price competition from TPG** | Feasey 2: Under the Proposed Transaction TPG will become a close competitor to Telstra (with effectively the same network) than under an agreement with Optus and so put downward pressure on prices generally (§47). | It is unclear to me that there will be increased price competition from TPG under the Proposed Transaction:<br>• There will be no competition between TPG and Telstra as regards RAN in the RCZ and so the extent to which TPG will be competitive will depend on the wholesale terms it has agreed with Telstra [redacted] (see §287);<br>• Retail competition between TPG and Telstra may be muted if TPG is concerned that it needs to maintain a good working relationship with Telstra, and is reliant on Telstra's willingness to amend or extend the agreement in the long term (and TPG's bargaining power as the agreement evolves may be limited if its outside options are poor). (see §299)<br><br>In any event, TPG is a smaller rival nationally than Optus. Weakening Telstra's closest rival (Optus) is more likely to have greater anticompetitive effects (see §216).<br><br>In the counterfactual I would expect price competition to be more effective, where there will be three firms with access to material 5G RAN infrastructure in the RCZ competing with each other (see §290). |

# 11 Overall conclusion

314 In my view, the Proposed Transaction will lead to a substantial lessening of competition. This results from the significant weakening of dynamic competition at the network level in the RCZ, and, over time, will result in a materially less competitive outcomes in retail and wholesale mobile telecoms markets. This is both because Optus will be a weaker competitor in retail and mobile markets and because all operators will have lower quality networks due to the weakening of dynamic competition. As regards the latter point, [redacted] this will materially reduce the competitive imperative on Telstra to maintain and improve its network.

**Declaration**

315 I have made all the inquiries which are desirable and appropriate (save for any matters identified explicitly in this report) and no matters of significance that I regard as relevant have, to my knowledge, been withheld in preparing this report.

Signature of Matt Hunt

25 October 2022

# A1 HSF Letter of instructions to AlixPartners

HERBERT SMITH FREEHILLS

Matt Hunt
Managing Director
AlixPartners UK LLP
6 New Street Square
London EC4A 3BF
United Kingdom

24 October 2022
Matter 82737584
By email

Dear Mr Hunt

**Letter of instructions – Expert economic report in respect of application for merger authorisation by Telstra and TPG**

## 1 Introduction

We refer to your letter of engagement dated 4 October 2022. As set out in that letter, we act for Singtel Optus Pty Ltd (**Optus**).

That letter confirmed your engagement, by us, to act as an independent expert and prepare an expert report in respect of an application for authorisation to the Australian Competition and Consumer Commission (**ACCC**) by Telstra Corporation Limited (**Telstra**) and TPG Telecom Limited (**TPG**) (together, **the Applicants**) for a proposed mobile spectrum and network sharing arrangement between them in Australia (**Proposed Transaction**).

The Proposed Transaction is described in the ACCC's Statement of Preliminary Views dated 30 September 2022 and the Applicant's application (public version) dated 23 May 2022.

The purpose of this letter is to confirm the questions that your report is to address.

## 2 Request for an expert report

The questions to be addressed in your expert report, based on your expertise as an economist, are the following.

(1) What, in your opinion, is the appropriate economic framework and considerations relevant to assessing the likely competition and efficiency effects of the Proposed Transaction?

(2) Having regard to that economic framework and those considerations, what, in your opinion, is the likely effect, if any, of the Proposed Transaction on competition and efficiency?

In addressing these questions, please consider and provide your view (as appropriate) on relevant matters raised in:

- the ACCC's Statement of Preliminary Views dated 30 September 2022;
- the public versions of the expert reports of Mr Richard Feasey dated 20 May 2022 and 25 July 2022; and
- the public version of the expert report of Dr Jorge Padilla dated 26 July 2022.

## 3 Materials you are to rely on

In preparing your report, please have regard to the materials in the Schedule 1 to this letter and specifically identify in your report these and any additional materials on which you have relied.

HERBERT SMITH FREEHILLS

## 4 Your duties and responsibilities as an independent expert

Please prepare your report in accordance with the requirements of the Federal Court of Australia Expert Evidence Practice Note (GPN-EXPT) (**Practice Note**), which includes the Harmonised Expert Witness Code of Conduct that you must comply with.

For your assistance in this respect, the Practice Note and a short guide to the preparation of your expert report are at Schedules 2 and 3.

We look forward to receiving your report.

Yours sincerely

[redacted]

**Linda Evans**
Partner
Herbert Smith Freehills

[redacted]

**Patrick Clark**
Partner
Herbert Smith Freehills

[redacted]

HERBERT SMITH FREEHILLS

# Schedule 1

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| **Expert reports submitted by Telstra and TPG** | | |
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HERBERT SMITH FREEHILLS

# Schedule 2

## Expert Evidence Practice Note (GPN-EXPT)

HERBERT SMITH FREEHILLS

# Schedule 3

## Preparation of your expert report

**1 Introduction**

Your introduction should contain the following information:

(1) Your name and (business) address.

(2) An acknowledgement of having read the Expert Evidence Practice Note (GPN-EXPT) (and having agreed to abide by it) and a reference to the Appendix or Attachment in which it can be found.

(3) A summary of your qualifications and experience.

(4) The scope of your assignment, including:

(1) the questions you have been asked;

(2) the assumptions (if any) you have been asked to make; and

(3) reference to the appendices or attachments in which these are set out.

(5) A list of people who have assisted you in the preparation of your report, including their qualifications and the roles they played.

(6) Reference to the appendices or attachments setting out the lists of documents you have relied on and been supplied with.

(7) An acknowledgement that your opinions are based wholly or substantially on specialised knowledge arising from your training, study or experience.

**2 Summary of opinions**

In the case of reports where a number of opinions have been expressed, a summary of your opinions should be included.

**3 Formalities**

Each paragraph of the report should be numbered, the pages should be numbered and the report should be in double spacing.

In the course of providing your opinion, you should ensure that you state, specify or provide:

(1) the assumptions and the material facts on which each opinion expressed in your report is based;

(2) the reasons for and any literature or other materials utilised in support of each opinion;

(3) any examinations, tests or other investigations on which you have relied, identifying the person who carried them out and that person's qualifications;

(4) the extent to which any opinion which the expert has expressed involves the acceptance of another person's opinion, the identification of that other person and the opinion expressed by that other person;

(5) a declaration that the expert has made all the inquiries which the expert believes are desirable and appropriate (save for any matters identified explicitly in the report), and that no matters of significance which the expert regards as relevant have, to the knowledge of the expert, been withheld;

(6) any qualifications on an opinion expressed in the report without which the report is or may be incomplete or inaccurate; and

(7) whether any opinion expressed in the report is not a concluded opinion because of insufficient research or insufficient data or for any other reason.

If you are unable to provide an opinion because a particular question, issue or matter falls outside your field of expertise, then you must also expressly acknowledge that in your report.

**4 Appendices or attachments**

As a minimum, your report must have the following appendices or attachments:

(1) Your curriculum vitae.

(2) The questions supplied by Herbert Smith Freehills which you answered in your report.

(3) The documents that record any instructions given to you by Herbert Smith Freehills.

(4) The assumptions (if any) you were asked to make for the purposes of preparing your report.

(5) A list of documents and other materials that you have been instructed to consider or on which you have relied for the purposes of preparing your report.

(6) A copy of the Expert Evidence Practice Note (GPN-EXPT).

# A2 Expert evidence practice note

FEDERAL COURT OF AUSTRALIA

# EXPERT EVIDENCE PRACTICE NOTE (GPN-EXPT)

General Practice Note

## 1. INTRODUCTION

1.1 This practice note, including the *Harmonised Expert Witness Code of Conduct* ("**Code**") (see Annexure A) and the *Concurrent Expert Evidence Guidelines* ("**Concurrent Evidence Guidelines**") (see Annexure B), applies to any proceeding involving the use of expert evidence and must be read together with:

(a) the Central Practice Note (CPN-1), which sets out the fundamental principles concerning the National Court Framework ("**NCF**") of the Federal Court and key principles of case management procedure;

(b) the Federal Court of Australia Act 1976 (Cth) ("**Federal Court Act**");

(c) the *Evidence Act 1995* (Cth) ("**Evidence Act**"), including Part 3.3 of the Evidence Act;

(d) Part 23 of the *Federal Court Rules 2011* (Cth) ("**Federal Court Rules**"); and

(e) where applicable, the Survey Evidence Practice Note (GPN-SURV).

1.2 This practice note takes effect from the date it is issued and, to the extent practicable, applies to proceedings whether filed before, or after, the date of issuing.

## 2. APPROACH TO EXPERT EVIDENCE

2.1 An expert witness may be retained to give opinion evidence in the proceeding, or, in certain circumstances, to express an opinion that may be relied upon in alternative dispute resolution procedures such as mediation or a conference of experts. In some circumstances an expert may be appointed as an independent adviser to the Court.

2.2 The purpose of the use of expert evidence in proceedings, often in relation to complex subject matter, is for the Court to receive the benefit of the objective and impartial assessment of an issue from a witness with specialised knowledge (based on training, study or experience - see generally s 79 of the Evidence Act).

2.3 However, the use or admissibility of expert evidence remains subject to the overriding requirements that:

(a) to be admissible in a proceeding, any such evidence must be relevant (s 56 of the Evidence Act); and

(b) even if relevant, any such evidence, may be refused to be admitted by the Court if its probative value is outweighed by other considerations such as the evidence

being unfairly prejudicial, misleading or will result in an undue waste of time (s 135 of the Evidence Act).

2.4 An expert witness' opinion evidence may have little or no value unless the assumptions adopted by the expert (ie. the facts or grounds relied upon) and his or her reasoning are expressly stated in any written report or oral evidence given.

2.5 The Court will ensure that, in the interests of justice, parties are given a reasonable opportunity to adduce and test relevant expert opinion evidence. However, the Court expects parties and any legal representatives acting on their behalf, when dealing with expert witnesses and expert evidence, to at all times comply with their duties associated with the overarching purpose in the Federal Court Act (see ss 37M and 37N).

## 3. INTERACTION WITH EXPERT WITNESSES

3.1 Parties and their legal representatives should never view an expert witness retained (or partly retained) by them as that party's advocate or "hired gun". Equally, they should never attempt to pressure or influence an expert into conforming his or her views with the party's interests.

3.2 A party or legal representative should be cautious not to have inappropriate communications when retaining or instructing an independent expert, or assisting an independent expert in the preparation of his or her evidence. However, it is important to note that there is no principle of law or practice and there is nothing in this practice note that obliges a party to embark on the costly task of engaging a "consulting expert" in order to avoid "contamination" of the expert who will give evidence. Indeed the Court would generally discourage such costly duplication.

3.3 Any witness retained by a party for the purpose of preparing a report or giving evidence in a proceeding as to an opinion held by the witness that is wholly or substantially based in the specialised knowledge of the witness[1] should, at the earliest opportunity, be provided with:

(a) a copy of this practice note, including the Code (see Annexure A); and

(b) all relevant information (whether helpful or harmful to that party's case) so as to enable the expert to prepare a report of a truly independent nature.

3.4 Any questions or assumptions provided to an expert should be provided in an unbiased manner and in such a way that the expert is not confined to addressing selective, irrelevant or immaterial issues.

[1] Such a witness includes a "Court expert" as defined in r 23.01 of the Federal Court Rules. For the definition of "expert", "expert evidence" and "expert report" see the Dictionary, in Schedule 1 of the Federal Court Rules.

## 4. ROLE AND DUTIES OF THE EXPERT WITNESS

4.1 The role of the expert witness is to provide relevant and impartial evidence in his or her area of expertise. An expert should never mislead the Court or become an advocate for the cause of the party that has retained the expert.

4.2 It should be emphasised that there is nothing inherently wrong with experts disagreeing or failing to reach the same conclusion. The Court will, with the assistance of the evidence of the experts, reach its own conclusion.

4.3 However, experts should willingly be prepared to change their opinion or make concessions when it is necessary or appropriate to do so, even if doing so would be contrary to any previously held or expressed view of that expert.

***Harmonised Expert Witness Code of Conduct***

4.4 Every expert witness giving evidence in this Court must read the *Harmonised Expert Witness Code of Conduct* (attached in Annexure A) and agree to be bound by it.

4.5 The Code is not intended to address all aspects of an expert witness' duties, but is intended to facilitate the admission of opinion evidence, and to assist experts to understand in general terms what the Court expects of them. Additionally, it is expected that compliance with the Code will assist individual expert witnesses to avoid criticism (rightly or wrongly) that they lack objectivity or are partisan.

## 5. CONTENTS OF AN EXPERT'S REPORT AND RELATED MATERIAL

5.1 The contents of an expert's report must conform with the requirements set out in the Code (including clauses 3 to 5 of the Code).

5.2 In addition, the contents of such a report must also comply with r 23.13 of the Federal Court Rules. Given that the requirements of that rule significantly overlap with the requirements in the Code, an expert, unless otherwise directed by the Court, will be taken to have complied with the requirements of r 23.13 if that expert has complied with the requirements in the Code and has complied with the additional following requirements. The expert shall:

(a) acknowledge in the report that:

(i) the expert has read and complied with this practice note and agrees to be bound by it; and

(ii) the expert's opinions are based wholly or substantially on specialised knowledge arising from the expert's training, study or experience;

(b) identify in the report the questions that the expert was asked to address;

(c) sign the report and attach or exhibit to it copies of:

(i) documents that record any instructions given to the expert; and

(ii) documents and other materials that the expert has been instructed to consider.

5.3 Where an expert's report refers to photographs, plans, calculations, analyses, measurements, survey reports or other extrinsic matter, these must be provided to the other parties at the same time as the expert's report.

## 6. CASE MANAGEMENT CONSIDERATIONS

6.1 Parties intending to rely on expert evidence at trial are expected to consider between them and inform the Court at the earliest opportunity of their views on the following:

(a) whether a party should adduce evidence from more than one expert in any single discipline;

(b) whether a common expert is appropriate for all or any part of the evidence;

(c) the nature and extent of expert reports, including any in reply;

(d) the identity of each expert witness that a party intends to call, their area(s) of expertise and availability during the proposed hearing;

(e) the issues that it is proposed each expert will address;

(f) the arrangements for a conference of experts to prepare a joint-report (see Part 7 of this practice note);

(g) whether the evidence is to be given concurrently and, if so, how (see Part 8 of this practice note); and

(h) whether any of the evidence in chief can be given orally.

6.2 It will often be desirable, before any expert is retained, for the parties to attempt to agree on the question or questions proposed to be the subject of expert evidence as well as the relevant facts and assumptions. The Court may make orders to that effect where it considers it appropriate to do so.

## 7. CONFERENCE OF EXPERTS AND JOINT-REPORT

7.1 Parties, their legal representatives and experts should be familiar with aspects of the Code relating to conferences of experts and joint-reports (see clauses 6 and 7 of the Code attached in Annexure A).

7.2 In order to facilitate the proper understanding of issues arising in expert evidence and to manage expert evidence in accordance with the overarching purpose, the Court may require experts who are to give evidence or who have produced reports to meet for the purpose of identifying and addressing the issues not agreed between them with a view to reaching agreement where this is possible ("**conference of experts**"). In an appropriate case, the Court may appoint a registrar of the Court or some other suitably qualified person ("**Conference Facilitator**") to act as a facilitator at the conference of experts.

7.3 It is expected that where expert evidence may be relied on in any proceeding, at the earliest opportunity, parties will discuss and then inform the Court whether a conference of experts and/or a joint-report by the experts may be desirable to assist with or simplify the giving of expert evidence in the proceeding. The parties should discuss the necessary arrangements for any conference and/or joint-report. The arrangements discussed between the parties should address:

(a) who should prepare any joint-report;

(b) whether a list of issues is needed to assist the experts in the conference and, if so, whether the Court, the parties o r the experts should assist in preparing such a list;

(c) the agenda for the conference of experts; and

(d) arrangements for the provision, to the parties and the Court, of any joint-report or any other report as to the outcomes of the conference ("**conference report**").

***Conference of Experts***

7.4 The purpose of the conference of experts is for the experts to have a comprehensive discussion of issues relating to their field of expertise, with a view to identifying matters and issues in a proceeding about which the experts agree, partly agree or disagree and why. For this reason the conference is attended only by the experts and any Conference Facilitator. Unless the Court orders otherwise, the parties' lawyers will not attend the conference but will be provided with a copy of any conference report.

7.5 The Court may order that a conference of experts occur in a variety of circumstances, depending on the views of the judge and the parties and the needs of the case, including:

(a) while a case is in mediation. When this occurs the Court may also order that the outcome of the conference or any document disclosing or summarising the experts' opinions be confidential to the parties while the mediation is occurring;

(b) before the experts have reached a final opinion on a relevant question or the facts involved in a case. When this occurs the Court may order that the parties exchange draft expert reports and that a conference report be prepared for the use of the experts in finalising their reports;

(c) after the experts' reports have been provided to the Court but before the hearing of the experts' evidence. When this occurs the Court may also order that a conference report be prepared (jointly or otherwise) to ensure the efficient hearing of the experts' evidence.

7.6 Subject to any other order or direction of the Court, the parties and their lawyers must not involve themselves in the conference of experts process. In particular, they must not seek to encourage an expert not to agree with another expert or otherwise seek to influence the outcome of the conference of experts. The experts should raise any queries they may have in relation to the process with the Conference Facilitator (if one has been appointed) or in

accordance with a protocol agreed between the lawyers prior to the conference of experts taking place (if no Conference Facilitator has been appointed).

7.7 Any list of issues prepared for the consideration of the experts as part of the conference of experts process should be prepared using non-tendentious language.

7.8 The timing and location of the conference of experts will be decided by the judge or a registrar who will take into account the location and availability of the experts and the Court's case management timetable. The conference may take place at the Court and will usually be conducted in-person. However, if not considered a hindrance to the process, the conference may also be conducted with the assistance of visual or audio technology (such as via the internet, video link and/or by telephone).

7.9 Experts should prepare for a conference of experts by ensuring that they are familiar with all of the material upon which they base their opinions. Where expert reports in draft or final form have been exchanged prior to the conference, experts should attend the conference familiar with the reports of the other experts. Prior to the conference, experts should also consider where they believe the differences of opinion lie between them and what processes and discussions may assist to identify and refine those areas of difference.

***Joint-report***

7.10 At the conclusion of the conference of experts, unless the Court considers it unnecessary to do so, it is expected that the experts will have narrowed the issues in respect of which they agree, partly agree or disagree in a joint-report. The joint-report should be clear, plain and concise and should summarise the views of the experts on the identified issues, including a succinct explanation for any differences of opinion, and otherwise be structured in the manner requested by the judge or registrar.

7.11 In some cases (and most particularly in some native title cases), depending on the nature, volume and complexity of the expert evidence a judge may direct a registrar to draft part, or all, of a conference report. If so, the registrar will usually provide the draft conference report to the relevant experts and seek their confirmation that the conference report accurately reflects the opinions of the experts expressed at the conference. Once that confirmation has been received the registrar will finalise the conference report and provide it to the intended recipient(s).

## 8. CONCURRENT EXPERT EVIDENCE

8.1 The Court may determine that it is appropriate, depending on the nature of the expert evidence and the proceeding generally, for experts to give some or all of their evidence concurrently at the final (or other) hearing.

8.2 Parties should familiarise themselves with the *Concurrent Expert Evidence Guidelines* (attached in Annexure B). The Concurrent Evidence Guidelines are not intended to be exhaustive but indicate the circumstances when the Court might consider it appropriate for

concurrent expert evidence to take place, outline how that process may be undertaken, and assist experts to understand in general terms what the Court expects of them.

8.3 If an order is made for concurrent expert evidence to be given at a hearing, any expert to give such evidence should be provided with the Concurrent Evidence Guidelines well in advance of the hearing and should be familiar with those guidelines before giving evidence.

## 9. FURTHER PRACTICE INFORMATION AND RESOURCES

9.1 Further information regarding Expert Evidence and Expert Witnesses is available on the Court's website.

9.2 Further information to assist litigants, including a range of helpful guides, is also available on the Court's website. This information may be particularly helpful for litigants who are representing themselves.

J L B ALLSOP
Chief Justice
25 October 2016

Annexure A

# HARMONISED EXPERT WITNESS CODE OF CONDUCT[2]

## APPLICATION OF CODE

1. This Code of Conduct applies to any expert witness engaged or appointed:

   (a) to provide an expert's report for use as evidence in proceedings or proposed proceedings; or

   (b) to give opinion evidence in proceedings or proposed proceedings.

## GENERAL DUTIES TO THE COURT

2. An expert witness is not an advocate for a party and has a paramount duty, overriding any duty to the party to the proceedings or other person retaining the expert witness, to assist the Court impartially on matters relevant to the area of expertise of the witness.

## CONTENT OF REPORT

3. Every report prepared by an expert witness for use in Court shall clearly state the opinion or opinions of the expert and shall state, specify or provide:

   (a) the name and address of the expert;

   (b) an acknowledgment that the expert has read this code and agrees to be bound by it;

   (c) the qualifications of the expert to prepare the report;

   (d) the assumptions and material facts on which each opinion expressed in the report is based [a letter of instructions may be annexed];

   (e) the reasons for and any literature or other materials utilised in support of such opinion;

   (f) (if applicable) that a particular question, issue or matter falls outside the expert's field of expertise;

   (g) any examinations, tests or other investigations on which the expert has relied, identifying the person who carried them out and that person's qualifications;

   (h) the extent to which any opinion which the expert has expressed involves the acceptance of another person's opinion, the identification of that other person and the opinion expressed by that other person;

   (i) a declaration that the expert has made all the inquiries which the expert believes are desirable and appropriate (save for any matters identified explicitly in the report), and that no matters of significance which the expert regards as relevant have, to the

[2] Approved by the Council of Chief Justices' Rules Harmonisation Committee

knowledge of the expert, been withheld from the Court;

(j) any qualifications on an opinion expressed in the report without which the report is or may be incomplete or inaccurate;

(k) whether any opinion expressed in the report is not a concluded opinion because of insufficient research or insufficient data or for any other reason; and

(l) where the report is lengthy or complex, a brief summary of the report at the beginning of the report.

**SUPPLEMENTARY REPORT FOLLOWING CHANGE OF OPINION**

4. Where an expert witness has provided to a party (or that party's legal representative) a report for use in Court, and the expert thereafter changes his or her opinion on a material matter, the expert shall forthwith provide to the party (or that party's legal representative) a supplementary report which shall state, specify or provide the information referred to in paragraphs (a), (d), (e), (g), (h), (i), (j), (k) and (l) of clause 3 of this code and, if applicable, paragraph (f) of that clause.

5. In any subsequent report (whether prepared in accordance with clause 4 or not) the expert may refer to material contained in the earlier report without repeating it.

**DUTY TO COMPLY WITH THE COURT'S DIRECTIONS**

6. If directed to do so by the Court, an expert witness shall:

(a) confer with any other expert witness;

(b) provide the Court with a joint-report specifying (as the case requires) matters agreed and matters not agreed and the reasons for the experts not agreeing; and

(c) abide in a timely way by any direction of the Court.

**CONFERENCE OF EXPERTS**

7. Each expert witness shall:

(a) exercise his or her independent judgment in relation to every conference in which the expert participates pursuant to a direction of the Court and in relation to each report thereafter provided, and shall not act on any instruction or request to withhold or avoid agreement; and

(b) endeavour to reach agreement with the other expert witness (or witnesses) on any issue in dispute between them, or failing agreement, endeavour to identify and clarify the basis of disagreement on the issues which are in dispute.

ANNEXURE B

# CONCURRENT EXPERT EVIDENCE GUIDELINES

## APPLICATION OF THE COURT'S GUIDELINES

1. The Court's Concurrent Expert Evidence Guidelines ("**Concurrent Evidence Guidelines**") are intended to inform parties, practitioners and experts of the Court's general approach to concurrent expert evidence, the circumstances in which the Court might consider expert witnesses giving evidence concurrently and, if so, the procedures by which their evidence may be taken.

## OBJECTIVES OF CONCURRENT EXPERT EVIDENCE TECHNIQUE

2. The use of concurrent evidence for the giving of expert evidence at hearings as a case management technique[3] will be utilised by the Court in appropriate circumstances (see r 23.15 of the *Federal Court Rules 2011* (Cth)). Not all cases will suit the process. For instance, in some patent cases, where the entire case revolves around conflicts within fields of expertise, concurrent evidence may not assist a judge. However, patent cases should not be excluded from concurrent expert evidence processes.

3. In many cases the use of concurrent expert evidence is a technique that can reduce the partisan or confrontational nature of conventional hearing processes and minimises the risk that experts become "opposing experts" rather than independent experts assisting the Court. It can elicit more precise and accurate expert evidence with greater input and assistance from the experts themselves.

4. When properly and flexibly applied, with efficiency and discipline during the hearing process, the technique may also allow the experts to more effectively focus on the critical points of disagreement between them, identify or resolve those issues more quickly, and narrow the issues in dispute. This can also allow for the key evidence to be given at the same time (rather than being spread across many days of hearing); permit the judge to assess an expert more readily, whilst allowing each party a genuine opportunity to put and test expert evidence. This can reduce the chance of the experts, lawyers and the judge misunderstanding the opinions being expressed by the experts.

5. It is essential that such a process has the full cooperation and support of all of the individuals involved, including the experts and counsel involved in the questioning process. Without that cooperation and support the process may fail in its objectives and even hinder the case management process.

[3] Also known as the "hot tub" or as "expert panels".

## CASE MANAGEMENT

6. Parties should expect that, the Court will give careful consideration to whether concurrent evidence is appropriate in circumstances where there is more than one expert witness having the same expertise who is to give evidence on the same or related topics. Whether experts should give evidence concurrently is a matter for the Court, and will depend on the circumstances of each individual case, including the character of the proceeding, the nature of the expert evidence, and the views of the parties.

7. Although this consideration may take place at any time, including the commencement of the hearing, if not raised earlier, parties should raise the issue of concurrent evidence at the first appropriate case management hearing, and no later than any pre-trial case management hearing, so that orders can be made in advance, if necessary. To that end, prior to the hearing at which expert evidence may be given concurrently, parties and their lawyers should confer and give general consideration as to:

   (a) the agenda;

   (b) the order and manner in which questions will be asked; and

   (c) whether cross-examination will take place within the context of the concurrent evidence or after its conclusion.

8. At the same time, and before any hearing date is fixed, the identity of all experts proposed to be called and their areas of expertise is to be notified to the Court by all parties.

9. The lack of any concurrent evidence orders does not mean that the Court will not consider using concurrent evidence without prior notice to the parties, if appropriate.

## CONFERENCE OF EXPERTS & JOINT-REPORT OR LIST OF ISSUES

10. The process of giving concurrent evidence at hearings may be assisted by the preparation of a joint-report or list of issues prepared as part of a conference of experts.

11. Parties should expect that, where concurrent evidence is appropriate, the Court may make orders requiring a conference of experts to take place or for documents such as a joint-report to be prepared to facilitate the concurrent expert evidence process at a hearing (see Part 7 of the Expert Evidence Practice Note).

## PROCEDURE AT HEARING

12. Concurrent expert evidence may be taken at any convenient time during the hearing, although it will often occur at the conclusion of both parties' lay evidence.

13. At the hearing itself, the way in which concurrent expert evidence is taken must be applied flexibly and having regard to the characteristics of the case and the nature of the evidence to be given.

14. Without intending to be prescriptive of the procedure, parties should expect that, when evidence is given by experts in concurrent session:

(a) the judge will explain to the experts the procedure that will be followed and that the nature of the process may be different to their previous experiences of giving expert evidence;

(b) the experts will be grouped and called to give evidence together in their respective fields of expertise;

(c) the experts will take the oath or affirmation together, as appropriate;

(d) the experts will sit together with convenient access to their materials for their ease of reference, either in the witness box or in some other location in the courtroom, including (if necessary) at the bar table;

(e) each expert may be given the opportunity to provide a summary overview of their current opinions and explain what they consider to be the principal issues of disagreement between the experts, as they see them, in their own words;

(f) the judge will guide the process by which evidence is given, including, where appropriate:

(i) using any joint-report or list of issues as a guide for all the experts to be asked questions by the judge and counsel, about each issue on an issue-by-issue basis;

(ii) ensuring that each expert is given an adequate opportunity to deal with each issue and the exposition given by other experts including, where considered appropriate, each expert asking questions of other experts or supplementing the evidence given by other experts;

(iii) inviting legal representatives to identify the topics upon which they will cross-examine;

(iv) ensuring that legal representatives have an adequate opportunity to ask all experts questions about each issue. Legal representatives may also seek responses or contributions from one or more experts in response to the evidence given by a different expert; and

(v) allowing the experts an opportunity to summarise their views at the end of the process where opinions may have been changed or clarifications are needed.

15. The fact that the experts may have been provided with a list of issues for consideration does not confine the scope of any cross-examination of any expert. The process of cross-examination remains subject to the overall control of the judge.

16. The concurrent session should allow for a sensible and orderly series of exchanges between expert and expert, and between expert and lawyer. Where appropriate, the judge may allow for more traditional cross-examination to be pursued by a legal representative on a particular issue exclusively with one expert. Where that occurs, other experts may be asked to comment on the evidence given.

17. Where any issue involves only one expert, the party wishing to ask questions about that issue should let the judge know in advance so that consideration can be given to whether

arrangements should be made for that issue to be dealt with after the completion of the concurrent session. Otherwise, as far as practicable, questions (including in the form of cross-examination) will usually be dealt with in the concurrent session.

18. Throughout the concurrent evidence process the judge will ensure that the process is fair and effective (for the parties and the experts), balanced (including not permitting one expert to overwhelm or overshadow any other expert), and does not become a protracted or inefficient process.

# A3 Glossary

| | |
|---|---|
| ACCC | Australian Competition and Consumer Commission |
| Capex | Capital Expenditure |
| CMA | Competition and Markets Authority |
| CAT | Competition Appeals Tribunal |
| EC | European Commission |
| FWA | Fixed Wireless Access |
| HSF | Herbert Smith Freehills LLP |
| LTIE | Long-Term Interest of End-Users |
| MC | Management Committee |
| mMIMO | Massive Multiple Input Multiple Output |
| MIMO | Multiple Input Multiple Output |
| MNO | Mobile Network Operator |
| MOCN | Multi-Operator Core Network |
| MORAN | Multi-Operator RAN |
| MVNO | Mobile Virtual Network Operator |
| NaaS | Network as a Service |
| NBN | National Broadband Network |
| NPV | Net Present Value |
| Opex | Operating Expenditure |
| Optus | Singtel Optus Pty Ltd |
| Proposed Transaction | Proposed commercial arrangements between TPG Telecom Limited and Telstra Corporation Limited |
| RAN | RAN |
| RCZ | Regional Coverage Zone |
| Telstra | Telstra Corporation Limited |
| TPG | TPG Telecom Limited |

# A4 Curriculum Vitae

I lead AlixPartners' EMEA economics practice and have 22 years of experience acting as an expert and economic advisor in the fields of regulation and competition policy. My main focus is the economic analysis of network industries, including leading AlixPartners' economics work in the telecoms sector.

I have represented a wide range of clients on regulatory, commercial and competition issues and I frequently submit expert reports to regulatory authorities and competition authorities. I have provided economic expertise in several litigation and disputes cases, including submitting expert reports to the English High Court, Irish High Court, the UK Competition Appeal Tribunal and the Hong Kong Telecommunications (Competition Provisions) Appeal Board.

Prior to joining AlixPartners, I was an Associate Director at Frontier Economics (2008 to 2014), an Assistant Director at PricewaterhouseCoopers (2006 to 2008), a Consultant at Analysys Mason (2000 to 2005), a PhD student at Imperial College London studying quantum information theory (1999 to 2000, did not finish) and a Physics Lecturer at Universidad de Los Andes, Bogotá, Colombia (1998 to 1999).

I have the following qualifications: MSc Economics, London School of Economics and Political Science, University of London, 2005 (Distinction); Postgraduate Certificate in Economics, Birkbeck College, University of London, 2002 (Distinction); and MPhys Physics, St Hugh's College, University of Oxford, 1997 (First Class).

## Selected litigation and disputes experience

- Beverage supplier – expert in relation to a UK damages claim in respect of an alleged buyers cartel.
- Technology firm – expert advice to a claimant in a follow-on litigation matter in the technology sector related to price-based exclusionary behaviour.
- BT – testifying expert in the CAT in relation to market definition issues as part of a regulatory appeal.
- TFT-LCD cartelist – advice to a defendant regarding a damages claim.
- PPLive – expert advice in relation to an English High Court claim for damages from the Premier League.
- Claimant – advising a claimant on damages in relation to an English High Court case regarding alleged abusive conduct.
- UK mobile operator – expert support to a UK mobile operator in relation to a UK damages claim by the administrators of Phones 4U Limited.
- Commercial real estate owner – advice to a real estate owner regarding potential competition law issues related to a dispute with a transport provider.
- Mobile phone retailer – expert for an independent mobile phone retailer on market issues related to a contractual dispute with a mobile network operator in the English High Court.

- Brewer – advice related to a damages claim following a finding of breach of Article 102.
- Korean IP owner – expert advice on damages related to infringement of an IP contract in the Chinese online gaming industry.
- Chinese gaming firm – expert advice on the quantum of damages related to IP infringements.
- HTC – *Philips vs Asustek & HTC*. Expert related to Article 101 and Article 102 issues in a standard essential patents dispute.
- Sports Information Services Ltd – *The Racing Partnership & Ors vs Sports Information Services Ltd*. Testifying expert at the English High Court regarding the application of statistics to assess potential infringement of copyright.
- eircom – *eircom Limited vs Commission for Communications Regulation*. Expert report to the Irish High Court regarding an appeal of the scope of universal services regulation.
- Speed Medical – *Speed Medical Examination Services Ltd. vs. Secretary of State for Justice* [2015] EWHC 3585. Expert report to the English High Court regarding an alleged Chapter II infringement by the Ministry of Justice.
- Major publisher – advice to a major publisher regarding potential Article 102 litigation against an ebook retailer.
- Everything Everywhere, Hutchison 3G, Telefonica UK, Vodafone – *British Telecommunications PLC vs. Office of Communications* (Case number 1211/3/3/13). Expert report to the UK Competition Appeals Tribunal for the four UK mobile network operators regarding an appeal of an Ofcom decision on wholesale fixed termination charges for non-geographic calls.
- Central Asian investor – provided expert support at the London Court of International Arbitration in relation to disputed share sale and options related to the ownership of a Central Asian company.
- Office of the Telecommunication Authority (OFTA, now OFCA) – Hong Kong Telecoms (Competition Provisions) Appeal Board, Appeal 29 of 2010. *SmarTone Mobile Telecoms Ltd vs The Telecoms Authority (TA)*. Advised the Hong Kong regulator, in the context of an interconnection dispute. This included an opinion and expert report considering whether an operator's actions breached the competition provisions of the telecoms legislation.
- Middle Eastern mobile operator – prepared an expert report for a potential litigation regarding changes made by a Middle Eastern government to the regulatory regime.
- eircom – provided expert support during an appeal of the National Regulatory Authority's decision not to set up a funding mechanism to cover the cost of providing universal services on the grounds that the burden was not unfair.
- Vodafone Netherlands – produced an expert report for Vodafone Netherlands to submit to the relevant Ministry explaining why the rules specified for an auction of 4G mobile spectrum were inappropriate.
- Vodafone, Telefonica UK and Three – produced a submission to Ofcom related to a dispute between the mobile operators and BT over proposed changes to BT's charges for the

termination of certain call types. The analysis considered the impact on the mobile operators' retail prices.

- South Eastern European mobile operator – assisted the production of an expert report on the quantum of the damages for submission to the International Court of Arbitration in Paris in relation to a commercial interconnection dispute with a fixed operator.

- International telecoms operator – assisted a major international operator to develop an evidence base for a series of litigation cases.

- Newspaper distributor – advised a newspaper distributor on the appropriate way to consider the costs of distribution in the context of potential future disputes regarding the charges for distribution activities.

## Selected competition economics and merger experience

- Telecoms operator – advised a telecoms operator on whether a proposed agreement with a rival was consistent with Article 101 TFEU.

- Coca Cola – expert advice to Coca Cola Turkey in responding to an investigation regarding an alleged anticompetitive rebates system.

- Ferry operator – advising a ferry operator regarding a Chapter1/Article 101 investigation into a capacity sharing agreement with a rival firm.

- Hunter Douglas – advised Hunter Douglas on a Phase 2 CMA merger inquiry related to its acquisition of 247 blinds, an online blinds retailer.

- Infrastructure builder – provided competition law compliance advice related to terms in contracts with telecoms operators.

- Incumbent telecoms operator – provided competition law compliance advice regarding proposed wholesale pricing.

- Major DRAM supplier – submitted an expert report to the SAMR (the Chinese antitrust authority) regarding potential allegations of single or joint dominance in DRAM supply.

- Bauer Media – assisted Bauer Media with a CMA Phase 2 merger inquiry.

- Telia – assisted Telia with the European Commission notification of its merger with Bonnier Broadcasting.

- Major UK bank – prepared senior management of a major UK bank for an oral hearing, acting as a mock CMA panel member, regarding the CMA Inquiry into personal current accounts and SME banking.

- Everything Everywhere – supported EE and BT regarding the European Commission investigation into the merger between Hutchison 3G Limited and Telefonica UK Ltd.

- Western European fixed incumbent operator – advised a fixed incumbent on the competition risks related to a potential acquisition of a rival fixed operator focused on providing services to major enterprise customers.

- Deutsche Telekom, Orange and Everything Everywhere – supported the selling parties regarding the Competition and Market Authority's investigation of the merger between BT Group and EE Limited. Also undertook the regulatory due diligence of BT for Deutsche Telekom and Orange.

- Western European mobile operator – submitted a paper to a national competition authority explaining why the acquisition of stores from an independent retailer did not lead to any competition concerns in terms of (possible) local market overlaps.

- Deutsche Telekom – supported DT regarding the European Commission's clearance of its merger with GTS, a major provider of fixed telecoms products in Central and Eastern Europe.

- Office of the Communications Authority (OFCA) – advised the Hong Kong national regulatory authority (NRA) on whether the terms for sublicensing the broadcasting rights to major international sporting events should be considered to be anticompetitive.

- Central European mobile operator – advised on a proposed three-to-two merger.

- T-Mobile Poland – provided expert advice during an investigation by the national competition authority (NCA) into alleged abuse of a joint dominant position in the mobile retail market, including a submission to the NCA.

- Spanish mobile operator – advised on a proposed four-to-three merger.

- Major Western European mobile operator – provided expert advice on the competition issues regarding the potential purchase of an independent mobile phone retailer.

- Asian regulator – advised on the competition risks that may arise when operators engage in multilateral negotiations over interconnection arrangements for certain types of calls.

- Vodafone, Telefonica UK and Everything Everywhere – led the economic advice for a proposed m-commerce joint venture which was unconditionally approved by the European Commission after an in-depth phase II merger investigation.

- Polkomtel – assisted a Polish mobile operator to respond to allegations by the national competition authority that certain terms in a national roaming contract were anticompetitive and in breach of Article 101.

- O2 (now Telefonica UK) – advised on the European Commission's investigation – since abandoned – into excessive pricing of wholesale international roaming.

- Mobile payments company – led the advice on pricing, contractual and competition issues to a joint venture covering a proposed new mobile payments system.

- OFTA – reviewed and commented on the draft competition guidelines including issues of market definition, assessment of dominance, price fixing, market sharing, margin squeeze, predatory pricing, bundling and refusal to deal.

- UK condiment producer – advised a significant UK producer of a type of condiment that was considering acquiring the other major producer in its sector. Proposed strategic options for reaching a deal that would address the key competition issues identified.

- Caribbean telecoms regulator – reviewed and commented on draft competition guidelines.

- Arqiva – provided an independent report for Arqiva assessing the likely future usage of Digital Dividend spectrum that was submitted to the UK Competition Commission in relation to the investigation of a merger with National Grid Wireless.

- Infocomms Development Authority – for the Singapore regulator defined a number of complex satellite and submarine-cable telecoms markets, assessed the dominance of the incumbent operator in these markets and proposed options for liberalisation of regulation.

- Microsoft – advised on compliance with the March 2004 European Commission (EC) Decision, in particular, considering the appropriate pricing strategies for licensing of interoperability information.

- Major UK bank – provided advice in relation to the Competition Commission investigation of payment protection insurance.

- Non-standard finance provider – advised on issues of market definition and profitability in relation to the payment protection insurance market investigation.

- UK Department of Health – provided advice on the assessment of level playing field issues related to the tendering of contracts from both public and private sector providers on economic and quality grounds.

- Trade body – analysed the options for redistributing revenues raised through the auctioning of carbon allowances, focusing on the State aid, tax and economic implications.

## Selected regulation experience

- GSMA – produced a series of papers analysing and quantifying the benefits that arise from increased geographic mobile coverage.

- BT Group – submitted a report to Ofcom analysing the impact of duct and pole access remedies on the definition of business connectivity markets.

- Western European incumbent operator – in response to a dispute from access seekers, advised on the economically appropriate way to consider cost orientation of certain supplementary services, and how this could be implemented given the available information.

- Incumbent operator – advised an incumbent operator on how content costs should be treated in different forms of regulatory margin squeeze tests.

- UK telecoms operator – provided strategic advice on the best way to respond to an Ofcom consultation on the broadband USO and drafted several sections of the response.

- Western European incumbent operator – assisted the operator to determine its regulatory strategy, including facilitating a workshop to agree the short-term regulatory priorities and drafting the long-term regulatory strategy based on the fundamentals of the market.

- British Gas – prepared BG for an oral hearing, acting as a mock CMA panel member, regarding its appeal of an Ofgem price control decision.

- Incumbent operator – advised an incumbent operator on the best way to respond to a regulatory consultation on Universal Service Obligation, including whether it was appropriate to introduce sub-national targets for quality metrics.

- Everything Everywhere, Hutchison 3G, Telefonica UK, Vodafone – supported the four UK mobile network operators regarding their response to a UK Government consultation including a proposal to enforce national roaming.

- eircom – drafted a submission that explained why fixed and mobile termination rates should be regulated consistently to avoid competitive distortions.

- Telefonica UK – assisted Telefonica to formulate its strategy for responding to a forthcoming Ofcom consultation on mobile call termination. Submitted a paper to Ofcom for Telefonica in response to the Ofcom consultation.

- eircom – provided a note for submission to the Irish NRA assessing the appropriate way to consider bundling in ex-ante margin squeeze tests.

- T-Mobile Poland – submitted an expert report to the Polish NRA regarding the proposed rules for an auction of 4G spectrum.

- GSMA – produced a report for the GSMA considering the costs and benefits of reallocation of a spectrum band from use by fixed satellite providers to mobile operators.

- Vodafone UK – advised Vodafone on its strategy for responding to a regulatory decision by Ofcom to allow Everything Everywhere to use its 1800MHz spectrum for the launch of 4G mobile services.

- Czech mobile operator – produced an expert report for a Czech mobile operator to submit to the regulator to influence the rules for a proposed spectrum auction.

- eircom – advised on how to respond to a review of the fixed voice line market. This included advising on the best strategy for responding, bearing in mind eircom's wider goals in other market reviews, as well as drafting the submission to the regulator.

- Vodafone Czech Republic – reviewed a draft regulatory finding of joint significant market power in the mobile access and origination market in the Czech Republic and produced an expert report critiquing the findings.

- Telefonica UK – critiqued a competition impact model that Ofcom had used to justify the benefits of removing 900MHz spectrum from Telefonica and Vodafone and making it available to other operators.

- eircom – advised eircom regarding the appropriate framework for determining the conditions for wholesale access to its superfast broadband network, including producing a report for submission to the Irish NRA.

- TalkTalk Group and BSkyB – advised in relation to Ofcom's 2011 consultation with respect to the prices for local loop unbundling and wholesale line rental.

- OFTA – assessed an expert report prepared in the context of an appeal of an interconnection direction of OFTA.

- TalkTalk Group – prepared a detailed critique of a cost benefit analysis provided by Ofcom in a consultation on a new pricing framework for BT Openreach.

- Ofcom Consumer Panel – reviewed the consideration of consumer issues in three regulatory projects for the Ofcom Consumer Panel. Published a report and presented at the launch.

- Classic FM – advised on Ofcom's principles for extending the Independent National Radio licences and undertook business forecasting to support Classic FM's submissions.

- Tanzanian Communications Commission – developed sophisticated long-run incremental cost models for fixed and mobile networks for the Tanzanian Communications Commission.

- Telecom Regulatory Authority of India – assisted in the design and implementation of a new interconnection regime.

- Dutch Communications Ministry – studied the directory services market in five countries interviewing key players to understand the dynamics of the market.

- Telekomunikacja Polska (now Orange) – analysed universal service regulation and implementation across six European countries and recommendations on strategy for approaching the government to influence national policy.

- Portugal Telecom – quantified the costs and benefits of the obligation to provide universal service.

## Selected strategy experience

- Incumbent operator – advising an incumbent on the optimal commercial rollout and bidding strategies, using a game theoretic approach, in the face of a large government tender for subsidy for rural broadband rollout.

- Private equity fund – provided regulatory and commercial due diligence advice regarding the potential acquisition of an incumbent fixed operator.

- Central European incumbent operator – advised on corporate and regulatory strategy to assist the operator to achieve its commercial ambitions, whilst recognising the constraints placed upon it by regulation and competition law.

- Camelot – quantified the potential impact of large-scale society lotteries (such as The Health Lottery) on the revenues of The National Lottery and on the returns to Good Causes and the Exchequer. The report was used by Camelot to aid its discussions with Government.

- Mobile financial services company – assisted a mobile financial services company develop a new customer proposition, in particular advising on the most appropriate contractual framework, including charging structures. This work was used to improve the existing business plans.

- Camelot – helped Camelot formulate its view on the appropriate regulatory structure for the UK lottery industry. Camelot used this to inform its engagement strategy with key policy makers.

- Camelot – determined whether a business case existed for certain types of marketing promotions of scratchcards.

- Private equity group – undertook a market and technical assessment of an incumbent operator in Eastern Europe, in support of a major transaction.

- Consortium of banks – due diligence in support of a proposed EUR1 billion debt financing of a network operator in a Mediterranean country deploying a next generation technology.

- Leading investment bank – due diligence in support of a proposed merger of two fixed network operators in a Mediterranean country.

- Moody's – reviewed the development of the demand for local telecoms exchange properties over the next 40 years.

## Publications

- *Self-Preferencing in Digital Markets*, M. Hunt, S. Darbaz and R. Scherf. The Guide to Digital Markets and Competition Enforcement Guide. (forthcoming)

- *Infrastructure sharing, wholesale-only and TowerCos: new models for accelerating 5G and FTTH deployments.* IBA 31st Annual Communications and Competition Law conference, 2022.

- *Assessing damages in abuse of dominance cases: effectively combining economic and forensic accounting approaches.* M. Hunt, G. Stevenson and F. Hammeke. ICGL Competition Litigation 2022.

- *Response to CMA consultation – proposed revisions to the CMA's Merger Assessment Guidelines.* Addleshaw Goddard LLP and AlixPartners, 2021.

- *Do the European Commission's proposals to regulate digital markets risk unintended consequences?* M. Hunt and M. Hughes. AlixPartners blog, 2020.

- *Regulating the regulation of digital markets: do the DMT's proposals strike the right balance?* M. Hunt and M. Hughes. AlixPartners blog, 2020.

- *Regulation of digital markets? lessons from telecoms and media.* M. Hunt. IBA 30th Annual Communications and Competition Law conference, 2019.

- *Loyalty rebates - all change or business as usual?* M. Hughes and M. Hunt. Practical Law, 2018.

- *Competition issues related to network sharing.* M. Hunt. IBA 29th Annual Communications and Competition Law conference, 2019.
- *How will Brexit transform UK telecoms regulation?* M. Hunt and N. Pratt. AlixPartners, 2017.
- *Improving the use of economics in the Courts.* D. Holt and M. Hunt. AlixPartners, 2017.
- *Evidence for a ladder of investment in Central and Eastern European countries.* Serdarevic, G., Hunt, M., Ovington T., Kenny, C. Telecoms Policy, 40(6), pp. 515-531, 2016.
- *Margin squeeze '10 years after': what have we learned?* G. Houpis; M. Hunt. 6th annual CRESSE conference, 2011.
- *Applying Margin Squeeze in Telecoms: Some Economic Insights.* Z. Biro; G. Houpis; M. Hunt. Journal of European Competition Law & Practice, 2011.
- *Deregulating interconnection in telecoms: will it ever be the right policy?* M. Hunt; G. Houpis. 5th annual CRESSE conference, 2010.

# A5 Documents relied upon

A1 I have relied on the following documents for the purposes of producing this report.

(a) Submissions by the Applicants:

(i) Telstra and TPG application and submissions, 23 May 2022, Application to the ACCC for merger authorisation (Public version). ("Application to the ACCC")

(b) Submissions by Optus and Optus internal documents:

(i) [redacted]

(ii) [redacted]

(iii) Optus' submission to ACCC (Confidential version), 27 June 2022. ("Optus' submission")

(iv) [redacted]

(v) [redacted]

(c) Expert witness evidence:

(i) [redacted]

(ii) Analysis Mason, 27 June 2022, "*The ACCC's consideration of the Telstra–TPG agreement*". ("Analysys Mason 1")

(iii) Analysys Mason, 24 October 2022, "*Network cost analysis of the Telstra–TPG agreement*".

(iv) Analysys Mason, 24 October 2022, "*Network cost analysis of the Telstra–TPG agreement – Model overview*".

(v) CEPA, 24 June 2022, "*Competition impacts of the proposed Telstra-TPG network and spectrum sharing agreements*". ("CEPA report")

(vi) Second expert report of Dr Chris Doyle (CEPA) (Public version), 26 September 2022. ("Doyle")

(vii) Expert report of Dr Jorge Padilla (Compass Lexecon) (Public version), 26 July 2022. ("Padilla")

(viii) Expert report of Richard Feasey (Public version), 20 May 2022. ("Feasey 1")

(ix) Supplementary expert report of Richard Feasey (Single version), 25 July 2022. ("Feasey 2")

(x) Expert report of Emma Ihaia (Link Economics) (Public version), 27 July 2022.

(xi) Expert report of Greg Houston (Houston Kemp) (Public version), 28 June 2022.

(d) Factual witness evidence:

(i) Witness statement of Benjamin White (Confidential version), 19 October 2022. ("Witness Statement of Benjamin White")

(ii) Witness statement of Kanagaratnam Lambotharan (Confidential version), 18 October 2022. ("Witness Statement of Kanagaratnam Lambotharan")

(iii) Witness statement of Kelly Bayer Rosmarin (Confidential version), 19 October 2022. ("Witness Statement of Kelly Bayer Rosmarin")

(iv) Witness statement of Yuen Kuan Moon (Confidential version), 19 October 2022. ("Witness Statement of Yuen Kuan Moon")

(v) Witness statement of Paul O'Sullivan (Confidential version), 19 October 2022. ("Witness Statement of Paul O'Sullivan")

(vi) Witness Statement of Steve Turner (Confidential version), 17 October 2022. ("Witness Statement of Steve Turner")

(e) Third-party documents:

(i) Goldman Sachs, 11 May 2022, "*Australia Telecom Services, What comes next for mobile pricing?*".

(ii) [redacted]

(iii) [redacted]

(iv) Richard Feasey, 11 March 2017, "*Response to Professor George Yarrow's submissions to the ACCC in the Domestic Mobile Roaming Enquiry 2016*".

(f) Official documents:

(i) *Vodafone v ACCC* [2020] FCA 117, 13 February 2020. ("VHA v ACCC")

(ii) ACCC, 30 September 2022, Statement of Preliminary Views. ("SoPV")

(g) Publicly available documents:

(i) ACCC, December 2021, Communications Market Report 2020-21. ("ACCC Communications Market Report 2021")

(ii) ACCC's Merger Guidelines.

(iii) ACCC, December 2021, Mobile Infrastructure Report. ("ACCC Mobile Infrastructure Report 2021")

(iv) ACCC, September 2022, Mobile Infrastructure Report,. ("ACCC Mobile Infrastructure Report 2022")

(v) Australian Government, December 2021, "*2021 Regional Telecoms Review: A step change in demand*". ("2021 Regional Telecoms Review")

(vi) BEREC, 13 June 2019, "*Report on infrastructure sharing*". ("BEREC Report on infrastructure sharing")

(vii) CMA's Merger Assessment Guidelines.

(viii) Domestic mobile roaming declaration inquiry, Final report, ACCC, October 2017. ("Domestic mobile roaming declaration inquiry")

(ix) Frontier Economics, September 2014, "*Assessing the case for Single Wholesale Networks in mobile communications*". ("Frontier Economics, SWN")

(x) Ofcom, 24 July 2012, "*Assessment of future mobile competition and award of 800 MHz and 2.6 GHz*". Statement. ("Ofcom's assessment of future mobile competition")

(xi) Telstra, 30 September 2021, "*Response to the Regional Telecoms Review 2021 Issues Paper*". ("Telstra's Response to the Regional Telecoms Review")

(h) Academic literature:

(i) Binmore, K., Rubinstein, A., & Wolinsky, A. (1986). The Nash Bargaining Solution in Economic Modelling. *The RAND Journal of Economics*, 17(2), 176–188.

(ii) Lutz, S. (1997). Vertical Product Differentiation and Entry Deterrence. *Journal of Economics*, 65(1), 79–102.

(iii) Myers, G., (2013), *The innovative use of spectrum floors in the UK 4G auction to promote mobile competition*, LSE, *Centre for Analysis of Risk and Regulation, Discussion Paper No*: 74. ("Myers")

(iv) Noh, Y.-H., & Moschini, G. (2006). Vertical Product Differentiation, Entry-Deterrence Strategies, and Entry Qualities. *Review of Industrial Organization*, 29(3), 227–252.

(v) Shaked, A., & Sutton, J. (1982). Relaxing Price Competition Through Product Differentiation. *The Review of Economic Studies*, 49(1), 3–13.

(vi) Rey, P. & Tirole, J. (2001). Alignment of Interests and the Governance of Joint Ventures, *IDEI Working Papers* 441, Institut d'Économie Industrielle (IDEI), Toulouse.