

Competition impacts of the proposed Telstra-TPG network and spectrum sharing agreements

for Optus

24 June 2022



FINAL REPORT

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EXECUTIVE SUMMARY

Optus commissioned CEPA¹ to assess the competition impacts in relevant markets in Australia of an application to the Australian Competition and Consumer Commission (ACCC) for merger authorisation between Telstra Corporation Limited (Telstra) and TPG Telecom Limited (TPG).²

Telstra and TPG (the Applicants) have entered into three interrelated agreements in respect of a Multi-Operator Core Network (MOCN) commercial arrangement: a MOCN Service Agreement, a Spectrum Authorisation Agreement, and a Mobile Site Transition Agreement (the proposed transactions).

CEPA was also invited by Optus for opinion on how European regulatory authorities and competition agencies would likely consider the application, given Australian competition law principles. **In our view, the application would likely be refused on the grounds of a substantial lessening of competition, or approved only with substantial conditions.**

We were also asked to review the report on the proposed transactions prepared by Telstra's expert Mr Richard Feasey. We rebut Mr Feasey's claims that network sharing agreements are generally given favourable treatment in Europe. In contrast, we highlight that the proposed transactions would receive very close scrutiny and would likely lead the authorities to propose the transactions are prohibited.

This report provides our assessment and reasoning.

The proposed transactions

As the ACCC summarise, the proposed transactions involve TPG authorising Telstra to use spectrum which it currently owns, and Telstra providing TPG with network services by way of active mobile network infrastructure sharing in certain regional and urban fringe areas (the Regional Coverage Zone), which comprise approximately 17% of the Australian population coverage. TPG will use the MOCN services supplied by Telstra to offer 4G and 5G retail and wholesale services in the Regional Coverage Zone. TPG will also transfer up to 169 of its existing mobile sites in the Regional Coverage Zone to Telstra and intends to decommission the remainder. The initial term of the MOCN Service Agreement is 10 years and TPG has two options to extend the agreement by 5 years.

Our assessment of the likely competition effects of the proposed transactions, in short the network sharing agreements (NSAs), begins with a look at NSAs in Europe. We highlight that **based on the evidence of how NSAs have been treated in Europe, the Telstra/TPG NSA would receive close scrutiny and would almost certainly be subject to a raft of commitments safeguarding competition.** Our review of the European approaches provides an important backdrop to the competition assessment that follows.

Assessment of network sharing arrangements in Europe

Telstra's expert Mr Feasey references mobile NSAs, many of which are in Europe. The references form part of an argument that mobile NSAs are common and generally viewed favourably by competition agencies, including by the European Commission, national competition authorities and national regulators. It is claimed or implied that any competition concerns that may arise are usually more than offset by enhanced network efficiencies, benefits to consumers in regard of coverage and/or improve the competitive process (e.g., promote entry).

Our analysis of the regulatory treatment of such NSAs indicates that Mr Feasey's characterisation is superficial, and in some cases selective and incomplete. We find that a range of levels of scrutiny is applied to NSAs depending on their characteristics and those of the market. Scrutiny of NSAs is especially pertinent given a key guiding principle in the EU is the promotion and facilitation of infrastructure-based competition wherever possible, and access-based regulation where duplication of fixed assets is undesirable.

¹ This report has been prepared by **Dr. Chris Doyle** and **Dr. Jonathan Mirrlees-Black**. Appendix A presents the authors' CVs.

² See '[Telstra Corporation Limited and TPG Telecom Limited proposed spectrum sharing](#)' application lodged 23 May 2022

Mr Feasey uses the EC's decision on the proposed merger of O2 and Three in the United Kingdom in support of a claim that the EC supports NSAs, just because the Commission said that spectrum sharing is less anti-competitive than a full merger. But the proposed merger was prohibited by the EC (though the decision was subsequently overturned by the court) and there was no NSA involving the merging parties. We do not know what remedies the Commission would have sought in the event of an NSA between these parties.

He also cites an analysis of an NSA in Czechia which claims prices have declined. But the relevant NSA has been the subject of an ongoing competition review since 2019. Parties to the NSA have offered commitments to allow the NSA to continue. This indicates that the parties believe material commitments would be required for the EC to accept the NSA rather than prohibit it. Mr Feasey makes little comment on the range of remedies that have been required to make a range of NSAs acceptable to competition authorities.

Finally, we consider a recent proposed NSA in Germany to be particularly relevant to the Telstra/TPG proposed transactions. This case is not mentioned by Mr Feasey. The two largest operators in Germany proposed to enter an agreement to increase coverage in rural areas. The competition authority (Bundeskartellamt) and the network regulator (Bundesnetzagentur) ensured that the third MNO in the market also had access to the infrastructure.

Our review of other NSAs suggests that the proposed Telstra/TPG NSA, involving active sharing and a withdrawal by TPG from infrastructure-based competition in Regional Coverage Zone, is exceptional and would result in very close scrutiny by competition and regulatory authorities. As with other MOCN NSAs, it would almost certainly require substantial commitments from the parties to safeguard effective competition. Given what we know about the nature of the Telstra/TPG NSA, we are not convinced the terms would provide a sufficient threshold to safeguard effective competition.

Having addressed NSAs in Europe and assessed how these are reviewed by competition and regulatory agencies, we next examine competition in the Australian mobile telecommunications market. This leads us to undertake an assessment of the likely effects on future competition of the Telstra/TPG NSA.

Competition and the Australian mobile telecommunications market

The Australian mobile telecommunications market can be characterised as an oligopoly with three vertically integrated Mobile Network Operators (MNOs). As the proposed transactions represent a partial (horizontal) merger of two of the three operators, the market would inevitably be more concentrated.

Our assessment of the likely future competition harms of the proposed transactions are effects based and consistent with merger analysis that would be undertaken by best practice competition and regulatory agencies. In particular, our analysis on the likely effects to future competition is guided by the Body of European Regulators for Electronic Communications (BEREC) common position on mobile infrastructure sharing.³

Three salient features of the market are relevant to our analysis of the proposed transactions.⁴

³ BEREC (2019) 'Common Position on Mobile Infrastructure Sharing', BoR (19) 110, 13 June 2019 available at https://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/8605-berec-common-position-on-infrastructure-0.pdf

⁴ Source of market data referring to mobile services is from the ACCC *Communications Market Reports*, various editions, available at www.accc.gov.au. Data on coverage and service quality are from the ACCC *Mobile Infrastructure Reports*, various editions, at www.accc.gov.au

1. **Dominance**⁵: Telstra is the dominant MNO, having a market share of retail mobile services in excess of 40% for ten consecutive years, which in recent years has been rising. When account is taken of wholesale transactions involving Mobile Virtual Network Operators (MVNOs), Telstra's market share rises to over 50% of all retail mobile services delivered in Australia. In regional Australia, Telstra's market share is well in excess of 50% given its share of regional infrastructure that reflects a legacy first-mover advantage. **The proposed transactions will serve to materially increase or extend positions of Telstra's substantial market power**, or equivalently strengthen the dominance of Telstra in the relevant mobile communications markets.
2. **Asymmetric spectrum holdings**: TPG's leasing to Telstra of valuable low and mid-band frequencies in regional Australia substantially reinforces spectrum asymmetry. As a result, in regional Australia Telstra would be in a stronger position to offer higher quality services at a lower unit cost than the only other network-based rival, Optus. Further, this would shift demand away from Optus in favour of Telstra across Australia, as significant numbers of consumers in metropolitan Australia value quality of service in regional Australia. **Reinforcement of spectrum asymmetry will serve to materially increase or extend positions of Telstra's substantial market power.**
3. **Growing importance of non-price competition**: It has been noted by the ACCC that non-price competition is becoming ever more important during the rollout of 5G. The increasing significance of quality of service (coverage and data capacity) in conjunction with the setting of national retail tariffs of the MNOs serve to **materially increase or extend positions of Telstra's substantial market power**. In our view this indicates a future market equilibrium in which prices are likely to be higher.

Competition Harms

As noted above, the structural effects of the Telstra/TPG NSA would materially increase or extend Telstra's substantial market power. However, in assessing the proposed transactions, we need to be mindful of the test the ACCC applies. Pursuant to section 90(7) of the CCA, the ACCC can grant authorisation if it is satisfied that either:

- i. the proposed acquisition would not be likely to have the effect of substantially lessening competition (SLC), or
- ii. the likely public benefit resulting from the proposed acquisition outweighs the likely resulting public detriment.⁶

A key feature of the proposed transactions, that affects competition in the factual merger setting (the with) against the counterfactual (the without), is the acquisition of TPG spectrum assets by Telstra. This acquisition would lead to a material shift in quality of service and product differentiation, with Telstra's quality increasing markedly in regional Australia versus that of Optus. The impact of this, all else equal, would be to lower the competitive constraint Optus places on Telstra in the national retail mobile services market.⁷ Although there would be an additional competitive

⁵ 'Dominance' is used as shorthand to mean a "substantial degree of power in a market". Section 46 of the Competition and Consumer Act (CCA) states where a corporation has a substantial degree of power in a market it must not engage in conduct that substantially lessens competition. In the European Union, dominance is defined as "a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by giving it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumers." See the European Union's fact sheet on [Competition Policy](#). Economists would equate a substantial degree of power in a market with dominance, for example see Galindo (2007) "[Prohibition of the abuse of a dominant position](#)". See also ACCC [Guidelines on misuse of market power](#), August 2018.

⁶ Para 1.4 in [Merger Authorisation Guidelines](#), ACCC October 2018.

⁷ The significance of quality of service in affecting demand for services was recognized in *Vodafone v ACCC* [2020]. See [FCA 117](#).

constraint presented by TPG on Telstra, this latter effect would not compensate for the reduction in Optus' competitive constraint given Telstra would enjoy wholesale revenues from the customers it loses to TPG.

In performing our competition harms assessment we make use of the convention of comparing the factual with a counterfactual; or what the ACCC terms the 'with and without test'.⁸ This is a process where a future with the proposed agreements and a future without the proposed agreements are compared. As the ACCC makes clear in its guidelines "The likely future state of competition without the merger [proposed transactions] (the counterfactual) will generally be similar to the state of competition prevailing at the time of the merger [proposed transactions]". In our view the future without the proposed transactions should reflect the state of competition in the market today and should not be predicated on speculations about other possible deals that may conflict with Australian competition law.⁹

Our competition assessment leads us to conclude that without additional conditions **the Telstra/TPG NSA would result in an SLC within the relevant markets in Australia.**

Telstra-TPG's advisor has mis-framed the transaction

Mr Feasey contends that competition would be enhanced by the proposed transactions because TPG would become a more competitive force. However, this is a mischaracterisation of the transactions. The transactions would reduce infrastructure-based competitors from 3 to 2, so across the RCZ (covering much of regional Australia) there is a duopoly. More worryingly, the combination of players 1 and 3 by size squeezes player 2 and makes investment at the margin undesirable in the region.

Methodologically we contend Mr Feasey has applied an inappropriate counterfactual and his analysis is therefore flawed and findings are erroneous. He has elected to speculate about a number of scenarios that might arise absent the proposed transactions, including different NSAs between Telstra and TPG and NSAs between TPG and Optus. In all cases, we believe that these speculative alternatives would be the subject of authorisation requests and competition scrutiny by the ACCC. As the UK CMA made clear in the Fenland Laundries case 2015/16 "the CMA (at Phase 1 or Phase 2) will not have as its counterfactual a sale of the target firm to a purchaser that is likely to result in a referral for an in-depth Phase 2 investigation, given the uncertainty over whether such an acquisition would, ultimately, be cleared or subject to subsequent remedial action. In this scenario, the counterfactual will often be the prevailing or pre-merger conditions of competition."

The appropriate counterfactual for the proposed transactions is the pre-proposed transaction conditions of competition. Any alternative joint-venture or NSA should be ignored as speculative and, in any case, would require a competition assessment. Including such scenarios in the counterfactual renders the competition analysis circular and flawed.

Remedies/Conditions

Our analysis has demonstrated that the proposed transactions absent conditions are likely to lead to a substantial lessening of competition. This points to two possible outcomes:

- Rejection of the parties' application for authorisation
- Accept the application for authorisation only if conditions such as granting Optus non-discriminatory access to the pooled spectrum and/or Telstra RAN in the RCZ are applied

⁸ Paras. 3.16-18 [Merger Authorisation Guidelines](#), ACCC October 2018.

⁹ Para. 6.10 in the Merger Authorisation Guidelines states "In identifying what is likely, the ACCC does not take into account mere possibilities. The ACCC is concerned with whether there is a real chance of an outcome occurring." This position is equivalent to the Guidance offered by the Competition and Markets Authority (CMA) in the UK, which states "The CMA will not use as a counterfactual a competitive dynamic that involves violations of competition law", see para. 3.5 [Merger Assessment Guidelines](#), 18 March 2021, CMA 129.

1. INTRODUCTION

1. Optus commissioned CEPA to assess the competition impacts in relevant markets in Australia of an application to the Australian Competition and Consumer Commission (ACCC) for merger authorisation between Telstra Corporation Limited (Telstra) and TPG Telecom Limited (TPG).
2. Telstra and TPG (the Applicants) have entered into three interrelated agreements in respect of a Multi-Operator Core Network (MOCN) commercial arrangement: a MOCN Service Agreement, a Spectrum Authorisation Agreement, and a Mobile Site Transition Agreement (the proposed transactions).
3. CEPA was also invited by Optus for opinion on how European regulatory authorities and competition agencies would likely consider the application, given Australian competition law principles.
4. We were also asked to review the expert report on the proposed transactions prepared by Telstra's expert Mr Richard Feasey.
5. We provide our competition assessment and review in four parts.
 - a. We first examine the European evidence on NSAs, and we conclude that the MOCN agreement sought by Telstra and TPG would be placed under substantial competition and regulatory scrutiny (Section 2).
 - b. We then look at competition in the Australian mobile services market and apply an effects-based approach in line with European best practice to consider the likely competition harms arising from the proposed transactions (Section 3). **We conclude that without conditions the agreement would strengthen Telstra's market power and likely result in a substantial lessening of competition.**
 - c. We review the key points that support Mr Feasey's opposite conclusion that this agreement would not result in a substantial lessening of competition (Section 4). **We find that Mr Feasey's conclusion relies on a speculative inappropriate counterfactual.**
 - d. In section 5 we present a conclusion and reiterate that the application for an authorisation should be rejected on the grounds of SLC.
6. The remainder of this section outlines some of the key features of transaction as well as provide an overview of the Australian mobile telecommunications market. It is the features of the market and how this agreement sits within that market which drives our assessment.

1.1. THE PROPOSED TRANSACTIONS

7. The ACCC has received an application for merger authorisation by Telstra and TPG. Telstra and TPG have entered three interrelated agreements: a MOCN Service Agreement, a Spectrum Authorisation Agreement, and a Mobile Site Transition Agreement (collectively 'the agreement'). In brief, the agreement means that TPG authorises Telstra to use spectrum it currently owns, Telstra will provide network services in certain regional and urban fringe areas to TPG (the 'Regional Coverage Zone' (RCZ)) and TPG will decommission 580 sites and transfer up to 169 mobile sites in the RCZ to Telstra. The transaction is asymmetric and makes TPG wholly reliant on Telstra in the RCZ. Furthermore, the transactions would involve an agreement between the largest mobile network operator (Telstra) and the smallest (TPG) in an already concentrated sector with three network infrastructure-based operators. The proposed transactions are for ten years with a possible extension for up to a further ten years.

8. The agreement can be considered a partial merger between the two companies. A partial merger can complicate competition analysis. As the United States Federal Trade Commission (FTC) highlights “*partial acquisitions, like mergers, vary greatly in their potential anti competitive effects...the specific facts of each case must be examined to assess the likelihood of harm to competition.*”¹⁰ The context is important to keep in mind and the agreement would continue a theme of consolidation in the sector following the merger of TPG Telecom and Vodafone Hutchinson Australia in 2018.

1.2. CHARACTERISTICS OF THE AUSTRALIAN MOBILE TELECOMMUNICATIONS MARKET

9. The Australian mobile telecommunications market can be characterised as an oligopoly with three vertically integrated mobile network operators – Telstra, Optus and TPG – accounting for 91% of the total market for retail mobile services and a near 100% of wholesale services. Competition in the Australian mobile telecommunications market has been extensively analysed by the ACCC.¹¹ In that analysis the ACCC characterises competition in the Australian mobile telecommunications market in some detail and we see no need to repeat this material. Instead, we present several stylised facts that highlight the necessary context to assess the proposed agreement.

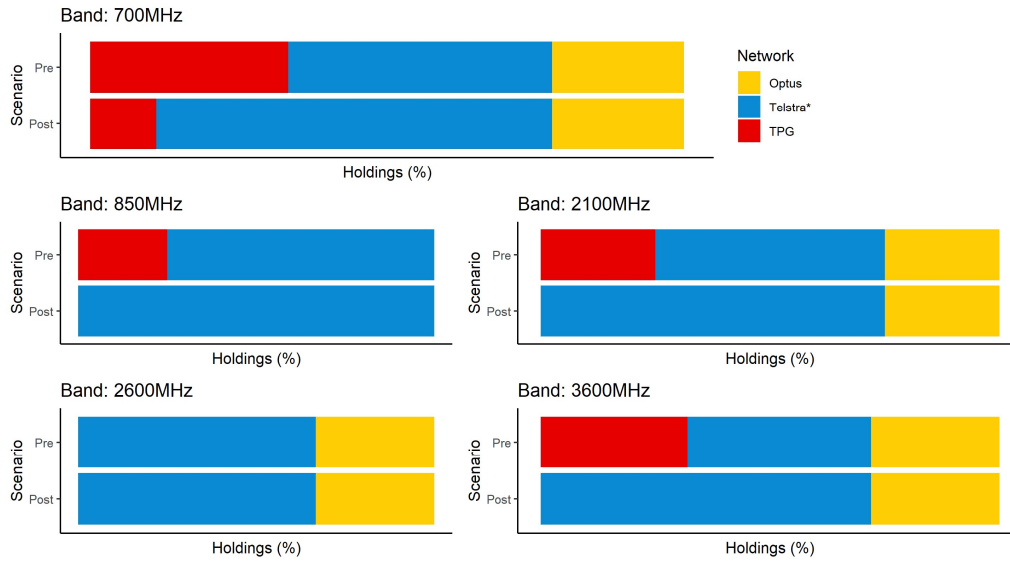
MNOs compete for inputs. The three MNOs compete to provide services into several markets including mobile services to retail consumers, enterprise services, wholesale mobile services to mobile virtual network operators (MVNOs) and potentially in the provision of IoT and M2M services. The provision of these services requires a series of inputs, and the three operators also compete to acquire these inputs. These inputs include radio spectrum, backhaul and tower locations. Each of the input markets can be characterised as an oligopsony with a small number of large buyers. The ACCC notes in particular that “access to spectrum is a critical enabler of competition in the downstream markets”.¹² Further concentration of any of these input markets may substantially lessen competition in relevant downstream markets. The proposed transactions would lead to a further concentration of radio spectrum holdings and greater asymmetry across the MNOs with Telstra having by far the largest amount of low- and mid-band frequencies in the RCZ, as highlighted in Figure 1.1. It is difficult to imagine how this change would not impact adversely the effectiveness of downstream competition.

¹⁰ Department of Justice (2010), [Horizontal Merger Guidelines](#).

¹¹ See for example ACCC (2017), [Domestic mobile roaming declaration inquiry – Final report](#) or ACCC (2021), [Communications market report](#).

¹² ACCC (2021), [Communications market report](#). Page 38.

Figure 1.1: Spectrum holdings in the Regional Coverage Zone pre and post the proposed transactions



- a. **The retail mobile services market is split geographically.** There is a recognized metropolitan versus regional divide and regional aspects of retail mobile service delivery was a key consideration in the ACCC’s recent domestic mobile roaming inquiry.¹³ Competition varies by geography and is correlated to population density. It is clear from Figure 1.2 that there are many areas within the RCZ with “only Telstra” networks, areas with Telstra and Optus or TPG operating, or areas with all three networks operating.¹⁴ Although the ACCC has concluded that there is a national market in retail mobile services, rather than a series of regional mobile services markets,¹⁵ it notes that competition in regional areas appears to be less effective than competition in metropolitan areas.¹⁶

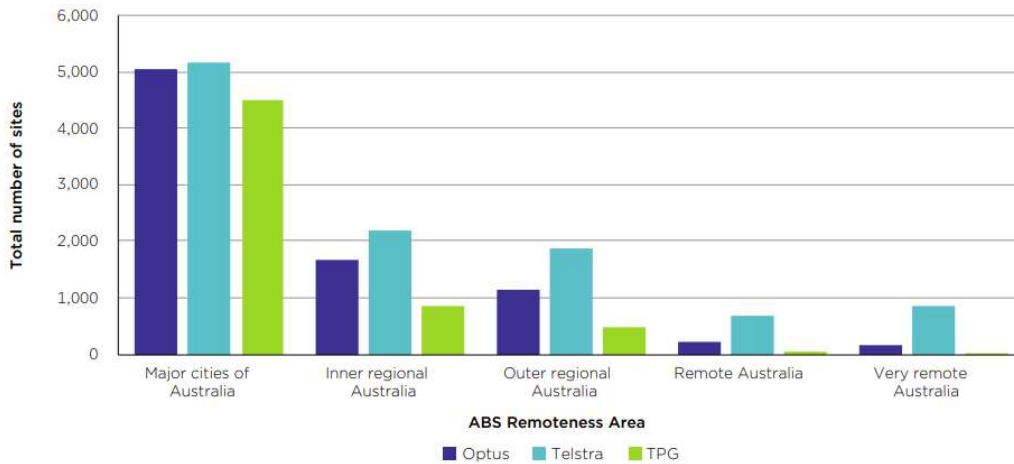
¹³ ACCC (2017), [Domestic mobile roaming declaration inquiry – Final report](#). Page 6.

¹⁴ ACCC (2021), [Mobile Infrastructure Report](#). Pages 5-6.

¹⁵ ACCC (2017), [Domestic mobile roaming declaration inquiry – Final report](#). Page 13.

¹⁶ ACCC (2017), [Domestic mobile roaming declaration inquiry – Final report](#). Page 38.

Figure 1.2: Total number of sites by MNO & ABS Remoteness Area, 2021¹⁷



- b. **Despite no requirement, all MNOs have adopted uniform national pricing and service offering.** The ACCC found that 35% of customers in capital cities cited coverage as the reason for choosing their current provider.¹⁸ Despite a large proportion of metropolitan mobile retail consumers placing less value on coverage than other non-price factors, uniform national pricing and service offerings prevents this segment of the market to self-select into cheaper packages that reflect the costs of maintaining a metropolitan-only network. On the other hand, uniform national pricing benefits regional and rural customers from carrying the burden of funding investment in regional and rural mobile sites. This was noted by the ACCC in 2017, who suggested the pending entry of TPG may lead to an increase in competition for metropolitan customers and the end of uniform national prices and service offerings.¹⁹ However, the subsequent merger of TPG and Vodafone have seen uniform national prices and service offerings persist.
- c. **Telstra is the dominant MNO nationwide and particularly in regional areas.** Telstra and its wholly owned MVNO, Belong, had a 44% share of the mobile retail market in 2021.²⁰ This market share has increased over the last 10 years, due in part to Telstra acting as a first-mover during the rollout of 4G²¹ and Vodafone’s heavily publicised network issues.²² Telstra dominates the market both in terms of population coverage and geographic coverage. Telstra claims to provide 4G services to approx. 99.4% of the population,²³ compared to Optus’ 97.3%²⁴ and TPG’s 96%²⁵, and is the sole provider operating in a region of 1 million square kilometres. In the RCZ, Telstra operates ~3,700 sites, compared to Optus’ ~2,500 sites and TPG’s ~725 sites.²⁶

¹⁷ ACCC (2021), [Mobile Infrastructure Report](#). Figure 2.1.

¹⁸ ACCC (2017), [Domestic mobile roaming declaration inquiry – Final report](#). Page 39.

¹⁹ ACCC (2017), [Domestic mobile roaming declaration inquiry – Final report](#). Page 3.

²⁰ ACCC (2021), [Communications market report](#). Page 28.

²¹ ACCC (2010-11), [Telecommunications Report](#). Page 19.

²² ACCC (2017), [Domestic mobile roaming declaration inquiry – Final report](#). Page 26.

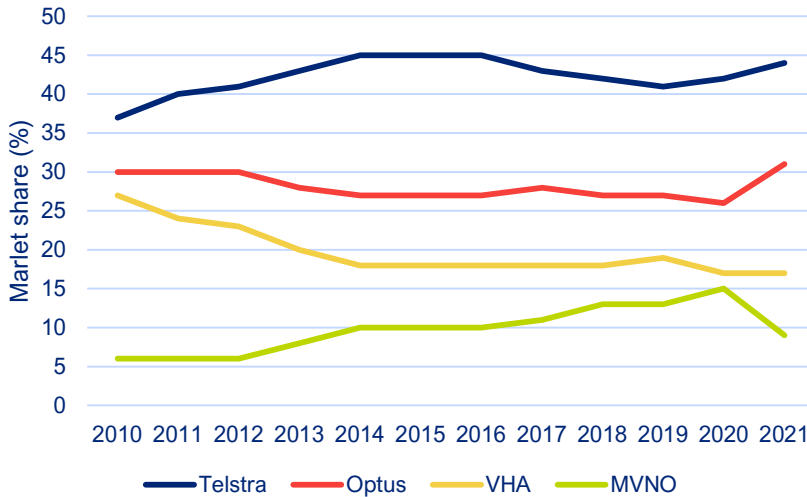
²³ See: <https://www.telstra.com.au/coverage-networks/our-network> (accessed 17/6/2022)

²⁴ See: <https://www.optus.com.au/about/network/coverage?SID=reg:4g:mod1:find> (accessed 17/6/2022)

²⁵ [TPG/Telstra Merger Application to the ACCC](#), 2022. Page 9.

²⁶ [TPG/Telstra Merger Application to the ACCC](#), 2022. Page 9.

Figure 1.3: Market shares in national retail mobile services



- d. **The rollout of 5G is changing the nature of competition.** The ACCC has observed a shift from price to non-price competition in the mobile retail market with MNOs prioritizing the rollout of 5G networks and services.²⁷ The MNOs’ flagship brands have increasingly focused on non-price factors such as quality of service, geographic coverage, network speeds, and current and future product offerings (i.e., offering 5G services now or in the near future). The number of sites with 5G increased significantly between 2020 and 2021 for both Telstra and Optus.²⁸ The rollout of 5G is softening price competition and allowing both Telstra and Optus to place a greater focus on competing on non-price factors.²⁹ The ACCC notes that retail mobile prices are rising³⁰ for many customers and are concerned that the TPG/Vodafone merger has directly contributed to higher mobile prices by lessening incentives for the three MNOs to compete strongly.³¹ Some MNOs have focused on having wide coverage on their 5G networks, while others have noted the peak speed available across their networks. For example, Telstra’s advertising now claims that they are Australia’s “largest” network with their 5G network attaining 75% population coverage³² while Optus has made claims that its 5G network is the “fastest 5G mobile network”³³ in Australia and

²⁷ ACCC (2021), [Communications market report](#). Page 38.

²⁸ ACCC (2021), [Mobile Infrastructure Report](#). Page 10.

²⁹ In oligopolistic market settings each firm has a degree of market power as each firm is aware its decisions affect market outcomes. Furthermore, an oligopolistic firm knows the choices it makes affects the choices made by all the rival firms in the market (i.e., there is strategic interaction). Economists model oligopolistic firms as choosing strategic variables, such as price, capacity, product quality, etc. If competition is driven by prices, it is referred to as Bertrand competition and features strategic complements (i.e., if one firm increases price, the best response of competing firms is also to increase price – the decisions mutually reinforce one another). If competition is driven by non-price factors, such as output volume, it is sometimes referred to as Cournot competition and features strategic substitutes (i.e., if one firm expands output, the best response of competing firms is to lower outputs so as to indirectly increase price – the decisions mutually offset one another).

³⁰ ACCC(2021) “Increases to advertised prices in 2020–21 mark a shift away from the previously observed trend of annual price falls for consumers. While inclusions continue to grow strongly (discussed below), providers do not appear to be competing as vigorously on price as in previous years.” [Communications market report](#). Page 31. See also page x.

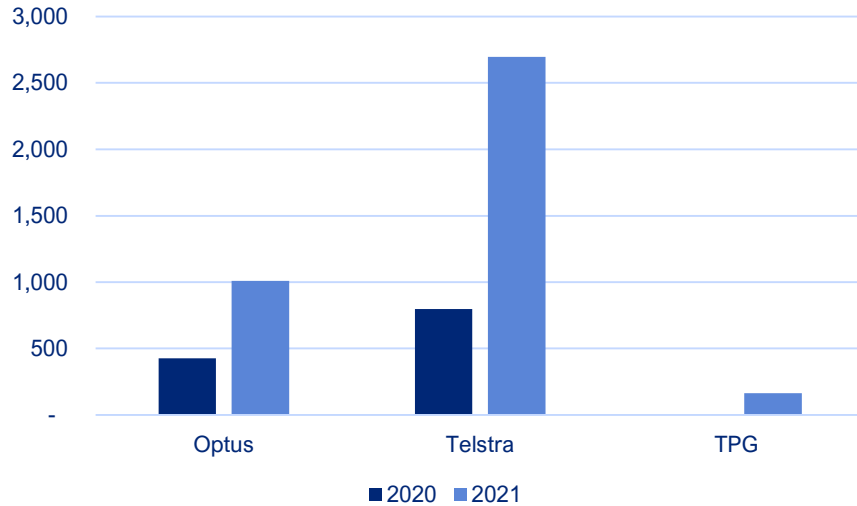
³¹ ACCC (2021), “The ACCC is concerned that the merger [TPG and Vodafone] has directly contributed to higher mobile prices by lessening incentives for the 3 MNOs to compete strongly.” [Communications market report](#). Page x.

³² See: <https://www.telstra.com.au/coverage-networks/our-coverage> (accessed 17/6/2022)

³³ ACCC (2021), [Communications market report](#). Page 9.

Vodafone claiming to have the “#1 Global 5G network”³⁴. It is evident from the ACCC’s Mobile Infrastructure Report 2021 that Telstra has the largest installation of 5G sites to date, see Figure 1.4.

Figure 1.4: Number of 5G sites by provider



1.3. CONCLUSION

10. The proposed transactions are occurring against a backdrop of increased concentration in the Australian mobile telecommunications market and rising headline retail prices. The reduction to three infrastructure-based network operators reinforces the oligopolistic nature of the market. It is also clear the oligopolistic market is asymmetric, with Telstra being the largest operator and dominant.
11. With this in mind, we turn in the next section to NSAs agreements in Europe and examine how regulators and competition authorities there review such agreements and draw lessons for our competition harms assessment in section 3.

³⁴ <https://www.vodafone.com.au/network>

2. ASSESSMENT OF NETWORK SHARING ARRANGEMENTS IN EUROPE

12. In this section we review NSAs and highlight the approaches taken by regulators and competition authorities to assess competition effects in Europe. Our purpose is in part to rebut contentions made in Telstra's expert report and to provide case studies that confirm why the ACCC should be concerned about potential competition harms arising from the Telstra and TPG agreement.
13. Mr Feasey notes that mobile NSAs are common internationally and generally viewed favourably by competition agencies, including by the European Commission, national competition authorities and national regulators. It is claimed or implied in his report that any competition concerns that may arise are usually more than offset by enhanced network efficiencies, benefits to consumers in regard of coverage and/or improve the competitive process (e.g. promote entry).
14. Overall, we consider Mr Feasey's reference of the international evidence to be superficial and, in some cases, selective and incomplete. We will provide evidence to demonstrate that Mr Feasey's report:
 - a. Misrepresents the nuance in the approach of European regulators, whereby differing levels of scrutiny are conventionally applied to different types of mobile NSAs;
 - b. Makes a misleading comparison with a European merger case (O2-Three, 2016), understating the potential implications of NSAs on competitive dynamics of the affected markets;
 - c. Uses selective evidence on the case of an NSA in the Czech Republic (Czechia);
 - d. Understates the use of obligations (often pre-empted by way of commitments) by European regulators to protect against anti-competitive behaviours which may otherwise arise as a result of NSAs;
 - e. Omits the highly relevant case study of proposed network sharing in Germany.
15. The international evidence shows that competition authorities find NSAs may lead to a substantial lessening of competition as a result of their impact on the mobile communication input markets, and if they permit such agreements, they typically impose conditions to prevent incumbent operators enhancing their dominant positions in these upstream markets.

2.1. THE APPROACH OF EUROPEAN REGULATORS

16. In the European Union, the principles of economic regulation and competition policy are established centrally, transposed nationally (with the exception of regulations) and enforced by the European Commission and competent national authorities. The relevant authorities, aside from the European Commission itself, consist of the Body of European Regulators for Electronic Communications (BEREC), national regulatory authorities (NRAs) which may have functions specific to the telecommunications sector, or be responsible for competition regulation more generally, and national competition authorities (NCAs).
17. A key guiding principle enshrined in Europe is the promotion and facilitation of infrastructure-based competition wherever possible and access-based regulations where duplication of fixed assets is undesirable.³⁵ The European Electronic Communications Code explicitly mentions efficient infrastructure-

³⁵ For example, see Cave et al (2019) "[The European Framework for Regulating Telecommunications: A 25-year Appraisal](#)" *Review of Industrial Organization*, 55. Pages 47–62.

based competition as an objective which competent authorities should pursue.³⁶ It is a policy which is seen as balancing trade-offs in regard of promoting consumer welfare and facilitating effective competition.

18. In addition to infrastructure-based competition, BEREC's common position on mobile network infrastructure agreements also identifies service-based competition, better connectivity, and the efficient use of spectrum as objectives for competent authorities to pursue.
19. Below in Table 2.1 we highlight the potential benefits and potential drawbacks identified by BEREC in its common position. (We present a more detailed application of these in the context of the Telstra/TPG merger in section 3.)

Table 2.1: Potential benefits and potential drawbacks on networking sharing

Potential benefits of network sharing	Potential drawbacks of network sharing
<ul style="list-style-type: none"> • Cost reductions • Improved efficiency: <ul style="list-style-type: none"> ○ Efficient use of spectrum ○ Reduced administrative costs • Enhanced consumer choice through preservation of service-based competition. • Public interest benefits: <ul style="list-style-type: none"> ○ Visual amenity improvement ○ Lower energy consumption and smaller carbon footprint 	<ul style="list-style-type: none"> • Reduced incentives to invest in own infrastructure • Reduced ability to compete independently of NSA partners • Increased coordination between participants, leading to: <ul style="list-style-type: none"> ○ Tacit collusion ○ Delays in deployment from bureaucracy in strategy, planning and operational deployment • Reduced network resilience from reduction in independent network operators

Source BEREC Common Position on Mobile Infrastructure Sharing, BoR (19) 110, 13 June 2019 available at https://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/8605-berec-common-position-on-infrastructure-0.pdf

20. Crucially, the potential benefits and potential harms of NSAs are not uniform but will be specific to the structure and competitive dynamics of the relevant markets. To assist national authorities in making such assessments, BEREC provides guidance on factors relevant to the assessment of NSAs. These are:
 1. Parameters which will inform the likely impact on competitive dynamics, e.g., market shares, number of MNOs involved, technologies involved, geographic scope, and anticipated duration of the NSA.
 2. Feasible level of competition, distinguishing between areas where infrastructure-based competition is reasonably feasible, areas with ambiguous feasibility, and areas where infrastructure-based competition is not reasonable feasible.
 3. Type of sharing.
 4. Extent of information sharing between the NSA partners.
 5. Contractual implementation and reversibility.
21. Having regard to these factors and potential benefits and potential drawbacks, we observe the following trends in regulatory involvement in and response to NSAs. First, in Table 2.2 we set out the factors which

³⁶ [The European Electronic Communications Code 2018](#), Directive (EU) 2018/1972 of the European Parliament and of the Council, 11 December 2018.

tend to lead to higher or lower level of regulatory scrutiny. Second, in Table 2.3 we summarise typical regulatory actions in response to different types of NSAs.

Table 2.2: Factors generally indicative of level of regulatory scrutiny

Less regulatory scrutiny	More regulatory scrutiny
<ul style="list-style-type: none"> • Passive sharing (e.g., co-location, site sharing) • Low market share • Fewer MNOs • Narrow geographic scope • Time-limited duration • Infrastructure-based competition not reasonably feasible • Less information shared • Easy to unwind 	<ul style="list-style-type: none"> • Active sharing (e.g., MORAN, MOCN) • High market share • More MNOs • Wider geographic scope • Longer or unlimited duration • Infrastructure-based competition reasonably feasible • More information shared • Hard to unwind

Source: Based on BEREC Common Position on Mobile Infrastructure Sharing, BoR (19) 110, 13 June 2019 op cit.

Table 2.3: Typical regulatory responses to NSAs

	Passive sharing	Active sharing – MORAN	Active sharing – MORAN	Active sharing – MOCN
Example arrangements	<ul style="list-style-type: none"> • Two or more MNOs using same sites, towers and, potentially, antennas 	<ul style="list-style-type: none"> • MORAN between non-dominant MNOs 	<ul style="list-style-type: none"> • MORAN involving dominant MNO • MORAN with regional division between MNOs 	<ul style="list-style-type: none"> • MOCN • MOCN NaaS
Typical regulatory involvement and response	<ul style="list-style-type: none"> • Generally encouraged. • May require MNOs to notify authority, but authority unlikely to take preventative action • May mandate passive sharing 	<ul style="list-style-type: none"> • Inclined to allow if no exchange of customer information, no regional division between MNOs • Potential for obligations 	<ul style="list-style-type: none"> • Close scrutiny and detailed economic analysis • More onerous obligations 	<ul style="list-style-type: none"> • Close scrutiny and detailed economic analysis • Most onerous obligations
Relevant case studies	Italy (Vodafone/TIM)	France Greece UK Spain	Germany Czechia	Lithuania/Latvia Iceland

Source: CEPA Analysis

2.2. DECISION ON O2-THREE PROPOSED MERGER

22. One of the few pieces of evidence which Mr Feasey provides in support of his claim that the European Commission is generally supportive of NSAs is the Commission’s 2016 decision on the proposed merger between Hutchinson 3G UK (trading as Three) and Telefonica UK (trading as O2) (§14). This is a curious choice as the proposed transaction was a merger rather than an NSA and the decision has since been annulled by the European General Court.

23. Mr Feasey provided the follow quote from the Commission's decision:

“a spectrum sharing arrangement would be less anti-competitive than the proposed Transaction because it would not give rise to the loss of price competition between the Parties at the retail or wholesale level”.

The evidence that a spectrum sharing agreement (i.e., a MOCN) would be less anti-competitive than a merger is not relevant to the Telstra-TPG NSA because the parties are not proposing to merge the entirety of their businesses.

24. We accept the premise that spectrum sharing can still be conducive to price competition between the parties to the MOCN NSA. However, the quote must be viewed in the context of the decision. Following the quote, the Commission went on to say that, “*spectrum sharing...might...still affect overall investment incentives in the industry*”.³⁷ The Commission also noted that a spectrum sharing agreement might require remedies to avoid harm to the other MNOs in the market, albeit this was in the context of the parties to the merger already being in separate MORAN arrangements with the other two MNOs.
25. The Commission's 2016 decision was to block the proposed merger and following this the parties did not enter into an NSA. Rather, the parties appealed the decision and it was annulled by the European General Court in 2020. The Commission has indicated that it will appeal this decision. As the 2016 decision was annulled, it may not be the most appropriate source of evidence for the opinions of the European Commission.

2.3. NSA IN THE CZECH REPUBLIC

26. Mr Feasey cites an analysis of an NSA in the Czech Republic (Czechia) which found that “prices substantially and significantly declined” (§101) but provides no analysis of the specifics of the NSA or relevant market. From the reference provided we understand that this quote refers to a MORAN arrangement between O2 and T-Mobile which commenced in 2016. The important features of this NSA are that it:
- a. Involves the two largest MNOs in this three-operator market.
 - b. Covers passive and active infrastructure for 2G, 3G and 4G technologies.
 - c. Applies to the entire territory of Czechia, except for the two largest cities Prague and Brno. As such, it captures 75% of mobile subscribers in the country.
27. The study cited by Mr Feasey (Maier-Rigaud, Ivaldi and Heller (2020)³⁸) is an econometric study employing the ‘difference-in-difference’ method. Having not undertaken our own empirical analysis of the Czech market we are not in a position to critique the finding in relation to prices, however we note that the paper appears to be a pre-print which is yet to be peer reviewed.
28. Despite citing this example, Mr Feasey fails to include the important detail that this MORAN NSA has been the subject of a European Commission competition review since 2019. The Commission's preliminary assessment was that the NSAs may restrict competition by reducing the MNOs ability and incentives to unilaterally invest in network infrastructure and thereby negatively affect the ability and incentives of T-

³⁷ European Commission, Commission decision on Case M.7612 Hutchinson 3G UK / Telefonica UK, §2483.

³⁸ “[Cooperation Among Competitors: Network Sharing Can Increase Consumer Welfare](#)” by Maier-Rigaud, Ivaldi and Heller (2020).

Mobile and O2 to compete on the retail and wholesale markets for mobile telecommunications services in Czechia.

29. While this case is still ongoing, it is insightful that the parties to the NSA have offered commitments to allow the NSA to continue. These include commitments to invest in network modernisation, cost-based pricing when one MNO asks the other MNO to make an investment on their behalf, limits on the exchange of information, and the appointment of an independent trustee to monitor compliance with the commitments. The commitments would remain in force until 2033.
30. While it is not currently known whether the European Commission will accept the commitments, the fact that the parties proposed them is indicative of their expectation that the Commission would otherwise seek to terminate the NSA or impose its own commitments.

2.4. USE OF OBLIGATIONS BY EUROPEAN REGULATORS

31. Mr Feasey provides minimal comment on the topic of regulatory obligations, or remedies, despite these being a common feature of NSAs in Europe, including the NSAs in many of the countries he has referenced. On this topic, Mr Feasey notes that sometimes regulators have imposed obligations on operators that lack the incentive to volunteer to share their network (§15). He also observes that recipients of public subsidies are generally required to share facilities and that sharing may also be required to reduce aesthetic or environmental impact (§15).
32. In our opinion, this characterisation significantly understates the use of obligations in their regulation of NSAs, especially in the case of MOCN agreements. Regulatory obligations are a common feature of European NSAs, for example:
 - a. In the Czech Republic NSA outlined above the respective companies have offered commitments to address the Commission’s competition concerns. These have not yet been agreed by the Commission but include an investment commitment, a pricing commitment in relation to the other company and limits on information exchange. This will be overseen by an independent monitor.
 - b. In 2015, the Icelandic Competition Authority allowed a network sharing agreement between Vodafone and Nova was allowed but only with “extensive commitments”.³⁹ These included prohibition against discriminating against wholesale access seekers, prescriptions around the division of fixed and variable costs, rules around the composition of the management company of the joint venture, prohibition against the harmonisation of prices and terms, rules on information sharing and technical cooperation and independent oversight of the obligations.
 - c. In 2019, 2 MNOs (Bite and Tele2) formed a joint venture (Centuria) which would involve active and passive sharing of network infrastructure in both Latvia and Lithuania. Bite went on to acquire another company (MEZON). While the acquisition was approved by Lithuania’s Competition Council it was ruled that Bite must not lease or transfer MEZON’s 2.3 GHz and 2.6 GHz frequencies to Centuria.⁴⁰
 - d. In 2020 the European Commission approved, under the EU Merger Regulation, the proposed acquisition of joint control over INWIT (a joint venture which will bring together Telecom Italia’s and Vodafone Italia’s telecommunication towers located in Italy) by Telecom Italia and Vodafone. The approval is conditional on full compliance with a commitments package offered by Telecom Italia

³⁹ Icelandic Competition Authority (2015), [Exemption from the competition act for Vodafone and Nova \(telecommunication companies\) for a network sharing agreement](#).

⁴⁰ OECD (2021), [Annual Report on Competition Policy Developments in Lithuania](#).

and Vodafone. The Commission found that the proposed transaction, as originally notified, would have combined under the ownership of Telecom Italia and Vodafone a very large pool of towers. The Commission had concerns that this could:

- i. reduce competition in the market for renting space on towers to telecommunication operators in Italian municipalities with more than 35,000 inhabitants. This would concern in particular mobile networks operators and fixed wireless access operators; and
 - ii. shut out telecommunication operators from the market, by restricting their access to space on Telecom Italia's and Vodafone's towers in Italian municipalities with more than 35,000 inhabitants. This would concern in particular mobile network operators already active in Italy or likely to enter the Italian market in the near future, that need to roll out their network.
- e. The Commission's decision was made conditional upon full compliance with a raft of commitments presented by the parties. Further, the parties decided to scale down their active sharing to appease concerns raised by the Commission. In regard of network sharing, the Commission has informed the parties that despite Italy having "five mobile network operators" and "telecommunication markets...less concentrated than in other Member States", "The Commission will continue to monitor developments in this area."⁴¹

2.5. PROPOSED NETWORK SHARING IN GERMANY

33. We consider that a recent proposal for network sharing between German MNOs provides relevant precedent. In this four-operator market, the two largest MNOs (Vodafone and Telekom) in 2019 announced that they would enter into a MORAN agreement which would cover so-called "grey spots" where there was only a single operator for 4G connectivity.⁴²
34. For the most part, these parts of Germany are rural areas where the provision of coverage is more challenging due to population density, geography, and regulation of electromagnetic fields.
35. Following intervention by the Bundeskartellamt (Federal Cartel Office) and the Bundesnetzagentur (Federal Network Office, responsible for utility regulation), the MORAN was expanded to include the third MNO, Telefonica, through separate agreement between Telefonica and each of the original MNOs.
36. This case study is an example of regulators acknowledging the benefits of NSAs in rural areas, while intervening to address concerns about the potential for a loss of infrastructure-based competition.

2.6. CONCLUSIONS ON EUROPEAN APPROACH TO NSAs

37. The European evidence on NSAs demonstrates that European regulators and competition authorities would place any agreement with a similar set of facts as the TPG/Telstra agreement under intense scrutiny. The TPG/Telstra agreement involves active sharing, covers a wide geographic area, involves a dominant and the largest MNO, is long-lived, appears difficult to unwind, gives rise to a strengthening of dominance and would lead to a significant change in market share in relevant input markets.

⁴¹ See case [M.9674 Vodafone Italia, TIM and INWIT JV March 2020](#) and the summary at https://ec.europa.eu/commission/presscorner/detail/en/IP_20_414

⁴² See https://www.bundesnetzagentur.de/SharedDocs/Pressemitteilungen/EN/2021/20210119_TelefonicaTelekom.html

38. In the next section we undertake a closer examination of the proposed transactions guided by European experience and BEREK's common position. We argue that this also provides an appropriate framework of analysis for addressing the questions of concern set out by the ACCC in its Market Inquiries Letter.

3. **COMPETITION AND THE AUSTRALIAN MOBILE TELECOMMUNICATIONS MARKET**

39. In section 1 we set out an overview of the mobile telecommunications market in Australia, emphasising the oligopolistic structure in which Telstra has dominance. In section 2 we presented an assessment of some key NSAs in Europe and highlighted how the proposed transactions are exceptional by international standards. In our view the proposed transactions therefore would be subject to intense regulatory and competition scrutiny if they were presented in an equivalent market setting in Europe.
40. In this section we present our assessment of competition effects that would likely arise from the proposed transactions. We conclude that without additional conditions, **the Telstra/TPG NSA proposed transactions would result in an SLC within the relevant markets in Australia.**

The proposed agreement and the application for an authorisation

41. The proposed agreement between Telstra and TPG affects upstream inputs (cell sites, radio spectrum and the RAN) in the RCZ. There is no agreement proposing a concentration in regard of the supply of downstream mobile services. Telstra and TPG will continue to operate, as far as the retail customer is concerned, as independent entities. However, a horizontal agreement affecting a critical part of the value chain may still have harms for downstream competition, as well as harmful ramifications for competition in related upstream markets (e.g., Towers).
42. It is widely recognised that the proposed agreement presents merger like effects, as it involves competitors. Telstra and TPG have applied to the ACCC for an authorisation allowing the conduct (embodied in the agreements) to be exempt from Part IV of the Competition and Consumer Act 2010. It is claimed by the applicants expert Mr Feasey that the agreements would not have the effect of SLC. He arrives at this view by undertaking a qualitative assessment using a framework that is in part familiar to that in merger cases examined by the CMA in the UK. However, we disagree with his use and interpretation of international evidence (as discussed in section 2) and the methodology applied for determining harms to competition (see below).

With and without test

43. In performing a competition harms assessment Mr Feasey, like us, makes use of the convention of comparing the factual (represented by the proposed agreements) with a counterfactual; or what the ACCC terms the ‘with and without test’. This is a process where a future with the proposed agreements and a future without the proposed agreements are compared. As the ACCC makes clear in its merger guidelines “The likely future state of competition without the merger [proposed transactions] (the counterfactual) will generally be similar to the state of competition prevailing at the time of the merger [proposed transactions]”.⁴³
44. In our view the future without the proposed transactions should reflect the state of competition in the market today and should not be predicated on speculations about other possible deals involving TPG, noting that such deals may conflict with Australian competition law or may be shaped by the proposed transaction failing due to competition concerns.⁴⁴ Mr Feasey, by contrast, presents an alternative counterfactual drawn from speculations about other NSAs involving TPG. As these arrangements would

⁴³ See paras. 3.16-3.19 in the [Merger Guidelines](#)

⁴⁴ Para. 6.10 in the [Merger Authorisation Guidelines](#) states “In identifying what is likely, the ACCC does not take into account mere possibilities. The ACCC is concerned with whether there is a real chance of an outcome occurring.”

come under the scrutiny of the ACCC, his analysis is necessarily circular and hence flawed. As the UK CMA emphasises “[it] will not use as a counterfactual a competitive dynamic that involves violations of competition law”.⁴⁵

Substantial lessening of competition

45. In general, the agreements may substantially lessen competition and harm consumers by: (1) creating or enhancing the ability of the remaining firms to act in a coordinated way on some competitive dimension (coordinated interaction), or (2) by permitting one or more of the parties to the agreement to raise prices profitably (unilateral effect). In either case, consumers may face higher prices, lower quality, reduced service, or fewer choices as a result of the agreements. In our view we believe that there is a case for harms arising from a unilateral effect.
46. The unilateral effect we highlight as presenting a harm that could substantially lessen competition arises from Telstra’s ability to apply greater market power because of changed structural conditions arising from the agreements. An important structural impact of the proposed transactions would be less infrastructure-based competition in the RCZ, which goes counter to the ACCC’s view that “increasing infrastructure-based competition ultimately results in better and cheaper services for consumers.”⁴⁶
47. We present our assessment by appealing to the influential framework set out by BEREC in its “Common position on mobile infrastructure sharing”, June 2019.⁴⁷ This document is the most recent and relevant guidance for European regulatory authorities when assessing competition harms that may arise from mobile NSAs. The document also sets out how competition law works in the EU in regard of NSAs. As the ACCC is both a regulator of telecommunications and a competition agency, this document is of utmost relevance. Surprisingly, the BEREC common position only merits a fleeting footnote reference in Mr Feasey’s report (see his footnote 11).

3.1. ASSESSMENT AGAINST BEREC COMMON POSITION

48. BEREC sets out a framework for European regulators to assess mobile infrastructure sharing agreements. In this section we apply their common position in the context of the TPG/Telstra agreements by recognising that the ACCC’s regulatory duties are similar or equivalent to those of a European NRA.
49. BEREC identifies the following potential benefits of NSAs:
 - a. Cost reduction
 - b. Improved efficient use of radio spectrum
 - c. Enhanced consumer choice
 - d. Public interest
50. It also identifies the following potential drawbacks:
 - a. Reduced incentives to invest/ability to compete
 - b. Requirement for increased coordination between participants
 - c. Reduced network resilience due to increased demand on host networks/sites

⁴⁵ Para. 3.5 [Merger Assessment Guidelines](#), 18 March 2021, CMA 129 available at

⁴⁶ ACCC (2021), [Communications market report](#). Page 13.

⁴⁷ BEREC [Common position on infrastructure sharing](#)

Market Inquiries Letter

51. The above BEREK framework in essence captures the questions set out by the ACCC in their Market Inquiries Letter of 31 May 2022.⁴⁸ In our application of the BEREK framework we therefore address the ACCC questions below:
- a. How mobile service providers currently compete, including whether they seek to differentiate on price, network coverage and quality, product and service offerings and inclusions, and whether the MOCN arrangement will impact this competition;
 - b. The likely impact of the MOCN arrangement on prices, including mobile services, fixed bundles, and data services;
 - c. The likely impact of the MOCN arrangement on non-price aspects of competition, including product and service offerings, contracts, network coverage, bundling options, speed, customer service and service quality;
 - d. How closely TPG and Telstra currently compete, or would be likely to compete in the future, absent the MOCN arrangement;
 - e. The likelihood of other competitors expanding their network coverage and quality to constrain the services provided by Telstra and TPG under the MOCN arrangement;
 - f. The extent and likelihood of public benefits and detriments, claimed by the applicants or otherwise, arising from the MOCN arrangement;
 - g. Any other competition issues relevant to the ACCC's consideration of the proposed arrangement.
52. Below we present our analysis of each of the BEREK factors in relation to the proposed agreement.

3.1.1. Benefit – Cost reduction

53. The first potential benefit identified by BEREK is cost reduction. It is observed that cost reduction is a driver for many operators to engage in mobile network infrastructure sharing, passive and active. As discussed in section 2, agreements vary in detail and cost reduction is affected by fixed and variable cost elements. The latter is of concern for cost pass-through.
54. TPG will acquire access to Telstra's RAN in the RCZ at agreed commercial terms. TPG will decommission 580 sites and transfer 169 to Telstra. In return TPG will lease spectrum assets to Telstra in low and mid-band frequencies. TPG will obtain wholesale access to Telstra's RAN on an alleged non-discriminatory basis.⁴⁹
55. Sharing infrastructure network costs between Telstra and TPG should result in lower average costs in the RCZ for Telstra, as it will have more traffic at each site due to wholesale provision to TPG. The use and management of TPG's spectrum by Telstra should also lower costs of deployment.

⁴⁸ See <https://www.accc.gov.au/system/files/public-registers/documents/Market%20Inquiries%20Letter%20-%2031.05.22%20-%20PR%20-%20MA1000021%20Telstra%20TPG.pdf>

⁴⁹ Parts of the agreement show discrimination in favour of Telstra – such as Telstra not having the need to grant access to any new 5G service at a site in the RCZ until at least six months after it has gone live.

56. The cost reduction benefits of sharing apply directly to less than one-fifth (some 17%) of consumers served and occur in an area where a significant part of service delivery involves public co-funding.⁵⁰ As MNOs, including Telstra and TPG, set national tariffs, this suggests it is highly unlikely reduced operating costs in the RCZ would pass-through to lower national prices benefitting all consumers in Australia. Notwithstanding the efficiency gain associated with higher profits, structural changes in the market as a result of the proposed transactions would highly likely result in greater harm leading to a welfare loss. We present our assessment of the harms (drawbacks) below.

3.1.2. Benefit – Improved efficient use of radio spectrum

57. The second potential benefit relates to the use of radio spectrum assets. Radio spectrum is a finite resource, and the three MNOs compete with each other to acquire spectrum as an input, either at auction when released by the Australian Communication and Media Authority (ACMA) or via secondary trading.⁵¹ Currently TPG makes little use of its 700 MHz low-band frequencies or its 2100 MHz and 3600 MHz mid-band frequencies in the RCZ. This is due to TPG concentrating on developing its network infrastructure in cities and metropolitan Australia. Both Optus and Telstra have invested in significantly more RAN infrastructure than TPG in the RCZ. This reflects their longer standing in the market, as well different approaches to service delivery.

58. Telstra's acquisition of most of TPG's radio spectrum assets in the RCZ is more likely to result in the spectrum being used rather than lying fallow. On the other hand, the agreement would substantially strengthen the dominant position of Telstra in the RCZ for this input. It would be equally true that radio spectrum would be used more efficiently if it were acquired by another network operator in the RCZ or shared by all operators in the RCZ.

59. There is likely some efficiency gain by transferring radio spectrum from TPG to Telstra. It is difficult to quantify this benefit without detailed modelling. Notwithstanding, there would be a similar and possibly larger efficiency gain by transferring the spectrum to another operator. For example, a transfer to Optus would lead to closer parity in regard of spectrum assets between Optus and Telstra in the RCZ.

3.1.3. Benefit – Consumer choice

60. The third benefit refers to enhancing consumer choice. Currently TPG offers a service in only parts of the RCZ through deployment of its own RAN. Under the agreements, TPG proposes to abandon investing in infrastructure and instead rely wholly on Telstra RAN and sites for service delivery. TPG would in effect be offering a service to its consumers in the RCZ, or alternatively, Telstra would be offering TPG customers a network as a service. Either way, TPG's service in the RCZ would be very similar to Telstra's service (in the long-run identical in regard of coverage and likely capacity). As TPG's service would be wholly dependent on Telstra's infrastructure in the RCZ – whenever Telstra suffers an outage, this would apply also to TPG.

61. In reality, consumers in the RCZ would see a reduction in infrastructure competition from three to two players. Over the course of time, TPG's service in the RCZ would be indistinguishable in many dimensions from that provided by Telstra. The agreements clearly serve to diminish consumer choice while retaining a façade of competition and product differentiation.

3.1.4. Benefit – Public interest

62. The fourth benefit BEREC identifies is referred to as public interest. These aspects relate mainly to environmental and health protection. We note that the parties do not mention much about such benefits above what could be achieved in other agreements, including passive sharing agreements and

⁵⁰ See section 2.6 in the [Mobile Infrastructure Report 2021](#)

⁵¹ See <https://www.acma.gov.au/spectrum-licences>, accessed: 17/6/2022

arrangements with tower companies to share physical infrastructure. We regard these public interest benefits in the context of assessing the agreements to be of marginal significance.

3.1.5. Drawback – Incentives to invest/ability to compete

63. There are two effects combined here by BEREC. In some regard the ability to compete relates more to static efficiency arguments, whereas the incentive to invest is a dynamic efficiency effect.
64. The agreements would result in TPG closing down infrastructure investment in the RCZ and decommissioning 580 sites in the RCZ. The transfer of spectrum to Telstra would provide a boost to its quality of service and, all else equal, make it harder for Optus to compete in the national retail mobile services market. Optus's difficulties arise because a significant proportion of all consumers value coverage and quality of service in the RCZ. Nearly half⁵² of Australia's population value network coverage in the RCZ and independent analysis by Opensignal in Australia shows that many consumers attach importance to coverage and quality of service.⁵³ The evolution to 5G services increases the importance of quality of service. In terms of infrastructure, Telstra is already dominant, particularly in the RCZ, and Telstra's dominance would be amplified by the increase in spectrum asymmetry between the two infrastructure-based competitors. Telstra would be able to offer services at lower unit cost and be able to offer superior service performance (e.g. downlink speeds).
65. As BEREC notes *"network operators participating in sharing agreement are likely to have a reduced ability to compete independently in particular regarding coverage, but with independent core networks the provisioning of services could be largely in competition. This potential drawback is likely to be particularly pronounced in active sharing agreements, as this, for example, limits the ability to independently replace active equipment."* BEREC significantly states: *"The degree to which these concerns impact dynamics in a given market will depend on context."*
66. The agreements would lead, all else equal, to increased demand for Telstra and TPG services outside of the RCZ, in addition to any demand increase in the RCZ. This demand increase would be at the expense of Optus. In the RCZ, Optus and Telstra would lose some customers to TPG, though Telstra benefits from new wholesale revenues under the agreements that will offset the impact of the shift in demand.
67. The reduction in demand for services at Optus, primarily due to the spectrum acquisition by Telstra affecting quality of service and strengthening its dominant position, would inevitably weaken its ability to compete in the national retail mobile communications market. Further, Optus would face elevated unit costs in both the RCZ and non-regional Australia. Optus would face the real prospect of upward cost pressures feeding through to prices. In contrast, Telstra and TPG would face higher demand for services. Given the cost effect on Optus, both Telstra and TPG would be able to profitably increase prices.
68. Telstra and TPG could each profitably increase prices, as their quality of service would improve, and the competitive constraint presented by Optus would be diminished. Although Telstra would lose some customers to Optus as a result of increasing prices, the sensitivity many customers express for coverage would enable Telstra to set higher prices and serve the same market volume as before the agreements.

⁵² See para 31 in the applicants Annex O. In Mr. Feasey's footnote 32, he describes the workings behind his estimates. There is a typo in his footnote 32; 0.35x81 should read 0.35x83. Nearly half of the population refers to 17% estimated to reside in the RCZ and 30% who reside in major cities and inner regional areas.

⁵³ Opensignal is an independent global standard for understanding the true state of the world's mobile networks based on measurements of real user experience. See www.opensignal.com Mobile experience is measured by Opensignal as the percentage of time with no signal, and percentage of time with a 3G/4G signal or 4G signal. This analysis is obtained from users deploying apps on their phones. Source: <https://www.opensignal.com/2021/08/19/mobile-experience-explains-why-some-of-Australias-users-change-mobile-operators> published August 19, 2021.

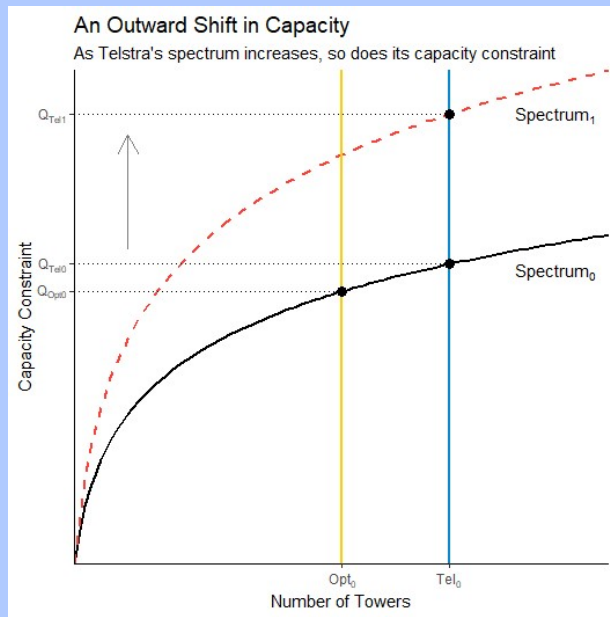
Some of its lost customer base would be diverted to TPG, for which it would obtain new wholesale revenues.

69. TPG, faced with Optus not changing price and Telstra increasing price, would likely profitably gain by increasing price. It would lose some customers to both Optus and Telstra but would be able to serve the same volume of customers prior to the agreement at a higher price. Optus's diminished ability to compete would shift the market further in favour of Telstra and substantially lessen competition.

Box 4.1: Likelihood of competitors expanding their network coverage

Capacity constraints faced by MNOs in the RCZ are a function of both spectrum and mobile towers. The mobile retail market can be characterised as an oligopoly. We have previously noted that competition on price is softening as MNOs, in particular Telstra and Optus, compete on non-price factors. This has been enabled, in part, by the rollout of 5G network services. MNOs offer slightly differentiated products, allowing for a degree of market power. Differentiation occurs across factors including network coverage, data allowances, and quality of service.

In the short term, both spectrum and mobile towers (capital in general) are fixed, and the MNOs compete on price. Over the medium and long term, MNOs invest in new mobile towers and compete on infrastructure. However, changes in spectrum holdings occur infrequently and new spectrum is not readily available. Hence, capacity constraints evolve over time through continuous investment in mobile towers and discrete (or lumpy) investment in spectrum.



Telstra, Optus, and TPG participate in spectrum auctions with a forward-looking view of market conditions, in particular their competitor’s ability to invest in infrastructure, alleviate capacity concerns, and provide competitive constraints in the RCZ. The MNOs bid for spectrum (national/metropolitan/regional) assuming that spectrum allowances are fixed and bid to best complement their expected investment in towers, and their expectations of the other MNOs’ investment in towers. That is, for each MNO, bidding in spectrum auctions is a function of expectations of future infrastructure investment by that MNO and expectations of future infrastructure investment by competing MNOs. This ensures that given future investment plans, spectrum is distributed between MNOs in such a way that enables future infrastructure competition.

Similarly, the spectrum holdings of each MNO and their competitors determines investment in mobile towers. Optus currently invests in mobile towers in the RCZ given their level of spectrum holdings, as well as Telstra and TPG’s spectrum holdings and their expectations of Telstra and TPG’s future investment in mobile towers in the RCZ. Prior to the proposed partial merger between Telstra and TPG, this distribution of spectrum was fixed in the short and medium term.

The proposed agreement represents a discrete, unexpected step change in Telstra’s spectrum holdings and would impact Optus’ future investment plan. It is not unreasonable to assume that this change in Telstra’s spectrum would make future investment in mobile towers in the RCZ less attractive for Optus. Optus’ marginal benefits when investing in new mobile towers are the customers gained at the margin. These are both customers in the RCZ who would be more attracted to Optus’ coverage and service offerings, and potentially customers in metropolitan areas who value coverage. Telstra’s step change in spectrum may significantly decrease the number of customers at the margin, leading to a decrease in Optus’ marginal benefit of investing. This means the potentially large investment program needed to compete with Telstra’s increase in spectrum may not be Optus’ best response, as the marginal benefit is now less than the marginal cost. Optus would not be able to compete through investment against Telstra in the RCZ, which may lead to a decrease in future investment, less infrastructure-based competition in the RCZ, and potentially worse quality of service for consumers in the RCZ over the long term.

3.1.6. Drawback – Increased coordination

70. The second drawback considered by BEREK is requirement for increased coordination between participants. The parties to the agreement would need to coordinate their businesses in the RCZ. This could lead to the sharing of information that could present harm in the form of coordinated effects. In this setting, parties to agreements are usually required by authorities to provide commitments in respect of the information exchange set out in the agreement. This is especially the case for MOCN agreements, as we highlighted in section 2 above.

3.1.7. Drawback – Reduced network resilience

71. The final drawback considered by BEREK is reduced network resilience due to increased demand on host networks/sites. BEREK states “*Shared infrastructure might reduce the overall resilience of mobile networks in a given geographic location. This is because fewer independent mobile networks will reduce the ability for end users to switch to alternative network operators when their own host network is unavailable (for example, when needing to contact emergency services).*” This is clearly an issue in the RCZ where there would only be two infrastructure-based network operators. Furthermore, due to the geographical split of the market in the RCZ in terms of infrastructure, it is entirely possible that this agreement would result in more “only Telstra” areas.

72. There would be less network resilience as a result of the agreements. Further, it is debatable whether Telstra would expand quicker in the RCZ (or elsewhere in Australia) as a result of the agreements – suggesting there would not be an acceleration in new customers previously unserved before the agreements.

3.2. COMPETITION HARMS

73. In this section we have assessed the various benefits and drawbacks of the proposed mobile infrastructure sharing agreements involving Telstra and TPG. We conclude that drawbacks present a greater risk than the benefits.

74. **The agreement would significantly increase concentration in the market, strengthen Telstra’s dominance and result in a likely substantial lessening of competition.**

4. COMMENTARY ON TELSTRA’S EXPERT EVIDENCE

75. In this section we scrutinise closely the arguments made in Telstra’s expert report written by Mr Feasey.⁵⁴ As argued above, we do not accept his findings of no SLC because we do not accept his methodological framework of analysis.
76. Mr Feasey’s chosen counterfactual is drawn from a range of speculative alternatives that would attract the scrutiny of the ACCC and are circular in effect. Mr Feasey argues that the appropriate counterfactual is that TPG would conclude an NSA regardless. The circularity of this counterfactual is apparent in the reasoning applied to support its reasonableness. A counterfactual where TPG concludes an NSA is reasonable because a “MOCN agreement with Telstra does not produce any concerns...so [the ACCC] is open to adopt a MOCN agreement between TPG and Optus as a relevant counterfactual”. This same counterfactual is then used to test whether the Telstra agreement would produce any concerns. With this reasoning it is only possible to come to a single logically fallacious conclusion - the agreement cannot produce any concerns.
77. Mr Feasey contends that competition would be enhanced by the agreement and states that the “effect of agreement will be to enhance price competition in the market as a whole”. This relies on TPG becoming a more effective competitor to Telstra and Optus. This appears to be the mischaracterisation of the agreement. The agreement reduces the number of infrastructure-based competitors from 3 to 2 leading to a duopoly in the RCZ. Competition is harmed not enhanced by the agreement.
78. Furthermore, we regard his treatment of European empirical evidence as superficial and consequently omits details of relevance. We highlight our views on the state of the European evidence in Section 2.

Table 4.1: Commentary on specific topics from Richard Feasey’s expert report.

Topic	Commentary
<p>Relevant counterfactual</p> <p>Mr Feasey has adopted as the most likely counterfactual for TPG to conclude a network sharing arrangement with Telstra or Optus (§49) but that it is not possible to determine the precise form of such an arrangement (§50). Mr Feasey concludes that this is more likely than TPG retaining and developing their own network because of their limited scope in the RCZ and no prospect of further expansion (§48) as TPG is not in a position to acquire sufficient sites (§45).</p> <p>Mr Feasey states that this counterfactual is reasonable for the ACCC to adopt because he finds that “a MOCN agreement with Telstra does not produce any concerns...so I think it is open to adopt a MOCN agreement between TPG and Optus as a relevant counterfactual” (§52).</p>	<p>We consider the reasoning applied in the identification of the relevant counterfactual to be circular. Mr Feasey states that a reasonable counterfactual is one where TPG makes an agreement with Optus. This would only be acceptable to adopt if this did not result in a SLC. He concludes that this agreement cannot result in SLC as the Telstra-TPG agreement does not result in SLC. However, the Telstra-TPG agreement is tested against this counterfactual. By this circular reasoning no SLC can ever be found.</p> <p>It is not clear to us why the current status-quo would not represent the relevant counterfactual. The status-quo does not require TPG to expand its network, but their capacity to do so cannot be so easily ruled out. Adopting the status-quo is supported by the CMA Merger Guidelines, para 3.11, partially quoted by Mr Feasey (§51). We have added in bold the part of the quote not included by Mr Feasey:</p>

⁵⁴ Feasey (2022), Expert Report on Assessing the Competitive Effects of the Telstra/TPG Telecom Regional MOCN Agreement, Annex O to the Telstra/TPG Application.

Topic	Commentary
	<p><i>‘the CMA (at Phase 1 or Phase 2) will not have as its counterfactual a sale of the target firm to a purchaser that is likely to result in a referral for an in-depth Phase 2 investigation, given the uncertainty over whether such an acquisition would, ultimately, be cleared or subject to subsequent remedial action. In this scenario, the counterfactual will often be the prevailing or pre-merger conditions of competition.’</i></p>
<p>Relevant markets</p> <p>Mr Feasey considers three relevant markets; the national retail mobile services market, the wholesale market for mobile services and the national fixed line broadband services market (§27).</p>	<p>The three MNOs do not only compete for customers (be they retail or wholesale) but also compete to acquire inputs to provide these services. The core relevant upstream input markets are the market for towers and spectrum. Concentration in these input markets will impact competition in the downstream markets for mobile services.⁵⁵</p>
<p>Wide acceptance of MOCN agreements</p> <p>Mr Feasey states that <i>“MOCN agreements have been widely accepted by other public authorities and used by the industry around the world as a means of improving utilisation of the industry’s collective network resources without adverse consequences for prices and any other aspects of competition”</i>.</p>	<p>While there are a wide range of MOCN agreements it is not the case that these have simply been allowed without scrutiny. We find that in Europe MOCN agreements have been subject to substantial scrutiny by competition authorities and many involve commitments aimed at safeguarding competition.</p>
<p>European Commission’s views on network sharing arrangements</p> <p>Mr Feasey references the European Commission’s views on network sharing agreements. He states that”</p> <ul style="list-style-type: none"> • <i>“European Commission has consistently argued that many of the efficiencies and benefits which might otherwise be obtained by merging the entire business...can be achieved through network sharing without risk of any corresponding loss of competition”</i> (§14) • <i>“European Commission had said that a network sharing agreement ‘would not give rise to the loss of price competition between Parties at the retail or wholesale level’”</i> (§88) • <i>“...consistent with the European Commission’s view, which I share, that network sharing agreements do not generally adversely affect competition in the retail market and that cost efficiencies...are likely to be passed onto customers”</i> (§101) 	<p>We disagree with the sanguine characterisation of the European Commission’s views on network sharing agreements. Indeed, the European Commission has initiated several competition investigations examining network sharing agreements. We have outlined this evidence in Section 2 above.</p> <p>We also find that where the European Commission has allowed such arrangements they have done so with conditions.</p> <p>In §14 and §88 Richard cites the European Commission’s decision on Hutchinson-Telefonica where the European Commission concluded that spectrum sharing can be less anti-competitive than a merger. This is a relative comparison to the case of a full merger and not relevant because TPG and Telstra are not proposing a full merger.</p> <p>Given the facts of this agreement, in my judgement, if a similar set of facts were present in a relevant European country the European Commission is incredibly unlikely to simply allow the agreement to</p>

⁵⁵ More formally there has been an increase in oligopsony market power.

Topic	Commentary
<p>Beneficial price effects</p> <p>Mr Feasey cites research demonstrating that “<i>prices substantially and significantly declined</i>” after a network sharing arrangement was agreed in the Czech Republic (§101).</p>	<p>proceed without further examination which could potentially lead to commitments from the companies involved or prohibition.</p> <hr/> <p>In pointing to evidence from the Czech Republic Mr Feasey fails to acknowledge that the network sharing arrangement considered in that research was subject to a European Commission antitrust case (case 40305).⁵⁶ In that case the European Commission’s preliminary assessment was that the “<i>NSA...may restrict competition...the NSA...might reduce the ability and incentives of T-Mobile, CETIN, O2 CZ to unilaterally invest in network infrastructure and therefore may negatively affect the ability and incentives...to compete on the retail and wholesale markets for mobile telecommunications...</i>”</p> <p>The case has not yet concluded, and the European Commission has set out proposed commitments to address the Commission’s competition concerns. We also note that the study cited showing prices declining is a working paper and has not yet been peer reviewed. Given the econometric techniques applied in that study without peer review it is not possible to be confident in the conclusions.</p>
<p>Co-ordinated effects</p> <p>Mr Feasey states his view that these are “<i>not...relevant in this case</i>”.</p>	<p>We would highlight the following features of this agreement:</p> <ul style="list-style-type: none"> • By definition TPG and Telstra will now coordinate their network expansion in the RCZ. This is because TPG is giving up its ability to expand its network in the RCZ entirely. Mr Feasey agrees that the agreement removes any incentive on TPG to deploy its own network in the RCZ (§62). • The agreement could potentially allow competitively sensitive information to be shared between Telstra and TPG. For example, Telstra’s network performance in the RCZ will be visible to both Telstra and TPG
<p>Incentives to invest</p> <p>Mr Feasey makes the following points with regards to the incentives to invest in the RCZ:</p> <ul style="list-style-type: none"> • TPG loses its incentives to deploy its own network in the RCZ (§62). In any case, a network sharing agreement is also assumed in the counterfactual, so there is no difference between the two. 	<p>We agree that the effect of the agreement is that TPG loses any incentive to make network investments in the RCZ. However, for this to not be a loss of competitive pressure on Telstra and Optus a counter-factual where a network sharing agreement is concluded appears to be required.</p>

⁵⁶ European Commission (2021), [Antitrust: Commission seeks feedback on commitments offered by T-Mobile CZ, CETIN, and O2 CZ concerning the Czech telecommunications market](#)

Topic	Commentary
<ul style="list-style-type: none"> Telstra does not lose its incentive to invest in the RCZ when compared to the counterfactual as the counterfactual involves a network sharing agreement (§64). Furthermore, TPG is an insignificant competitor to Telstra in the RCZ and the number of sites can be used a proxy for competition offered by TPG (§65). 	<p>When it comes to both TPG’s and Telstra’s incentives the acceptance of the counter-factual, where an NSA is concluded regardless, is core to Mr Feasey’s argument. If this counterfactual is rejected and instead the status-quo is maintained there are potentially substantial differences in incentives to invest for both TPG and Telstra.</p>
<ul style="list-style-type: none"> Optus does not lose its incentive or capacity to invest in the factual or the counter-factual (§69). 	<p>We note that in recent years TPG has not completely abandoned investment in inner regional or outer regional areas.⁵⁷ Between 2018 and 2021 TPG on average increased the number of mobile sites in inner regional areas by 4% per year and in outer regional areas by 6% per year. When it comes to market share of towers between 2018 and 2021 TPG maintained its market share in both inner regional and outer regional areas.</p> <p>Furthermore, with regards to Telstra’s incentives, Mr Feasey assumes that Optus continues to provide a strong competitive constraint (§72). However under the factual this may cease to be the case and Telstra’s incentives are reduced.</p>

⁵⁷ ACCC (2021), [Mobile Infrastructure Report 2021](#).

5. CONCLUSION

In this report we have looked at mobile network sharing agreements in Europe and how they are reviewed from the perspective of potential harms and potential benefits. We highlight, based on evidence, NSAs involving a deeper relationship between parties, such as MOCN agreements, meet with closer scrutiny by competition and regulatory authorities.⁵⁸

We also highlight how the Australian mobile telecommunications market has become more concentrated in recent years and headline prices have increased. Increased concentration reflects both structural changes arising from mergers and acquisitions, as well as Telstra's long-standing position of dominance.

The proposed transactions between Telstra and the smallest operator TPG in our view serve to strengthen Telstra's position of dominance and would highly likely lead to a substantial lessening of competition (SLC). A key factor giving rise to our finding of SLC is the acquisition of TPG's spectrum assets by Telstra in the RCZ.

We have noted that were such a merger proposed within Europe against the same market facts, the regulatory and competition authorities would subject it to intense scrutiny. In our view the authorities would likely demand a raft of commitments to safeguard competition, but we would not be surprised if the authorities chose an outright prohibition.

Our assessment of international NSAs and the approaches in Europe contrasts sharply with the analysis presented by Telstra's expert Mr Feasey. In our report we rebut his claims that authorities in Europe are generally favourably disposed towards NSAs. This misrepresents the facts and understates the potential gravity of MOCN agreements, which typically attract considerable attention by regulatory and competition authorities.

In summary, based on our application of the BEREC framework we conclude there would likely be a substantial lessening of competition if the proposed transactions proceed as presented. On these grounds, we recommend that the proposed transactions are not authorised.

⁵⁸ In many countries and in the EU, competition law requires merging parties to notify competition authorities if a proposed transaction exceeds a market threshold test, usually determined by size. Mergers and NSAs in mobile telecommunications would therefore be typically subject to merger review in such countries. This is not currently the case in Australia, as the previous ACCC Chair Rod Sims observed "The Australian approach to merger control is out of step with most merger regimes internationally", see 'Protecting and promoting competition in Australia' speech given to the *Competition and Consumer Workshop 2021*, Law Council of Australia, conference on 27 August 2021 available at: <https://www.accc.gov.au/speech/protecting-and-promoting-competition-in-australia>

Appendix A CVs

Chris Doyle – Head of Telecoms & Senior Advisor

Summary of experience

Chris, an economist with over 25 years' experience advising clients in the communications space, joined CEPA in March 2022 as Head of Telecoms and Senior Advisor. Over 2018-21 he was an economist at the UK regulator Ofcom, having previously held senior positions in economic consulting and academia.

His many consulting engagements have covered competition cases, regulatory submissions, spectrum auctions, policy and market design. He has advised at board level, presented expert testimony before court and government commissions, authored many expert reports and participated in high-level regulatory negotiations.

In addition to his economic skills and knowledge of economic theory and business practice, he has drafted legal regulatory instruments and undertaken detailed modelling to test specialist auction software (proficient in Excel and MatLab) and commented on financial modelling methods.

Chris obtained a PhD in Economics from Warwick University, specialising in game theory and industrial organisation. He has published many peer reviewed articles, contributed seminal papers on access pricing and bargaining, and worked with some of the world's leading economists. He has held senior academic positions at Cambridge University, London Business School, Warwick University, and visiting positions at Charles University (Prague), INSEAD, LSE and Queens (Canada).

Project experience (sample)

Telecoms

- **UK: Ofcom, 2018 – 2021**

Contributed to auction design (combinatorial, clock and SMRA formats), led on peer review management of auction design, drafted secondary legislation (statutory instruments), mathematical assignment stage modelling (MatLab), preparatory work on mmWave auction design, drafted responses to public consultations, organised economics external seminar programme and contributed to statements.

- **Netherlands: Tele2, 2017**

Advice on multiband auction 2019 prepared by Autoriteit Consument & Markt. Report submitted to the competition agency.

- **Sweden: Tele2, 2010**

Report on auction design for 800MHz band and presentation to the regulator PTS.

- **UK: BBC, 2008**

Advise on spectrum auction in relation to digital dividend released (DDR) spectrum.

- **UK: FirstMark Communications UK Limited, 2000**

Bid support and strategy in UK BFWA spectrum auction. Working with Professor Peter Cramton led a team that provided bid support to the client for the UK BFWA spectrum auction. A Bid Tracking Tool (BTT) was designed using Excel and visual basic programming. The BTT was designed to be used independently by the bid team, comprising the UK Senior VP (Keith Cornell) and other senior managers. Conducted mock auctions with staff and provided detailed guidance on strategy.

Telecom Expert Testimony and Expert Reports

- **Peru: Claro, 2015 [Telecommunications – Merger]**

Opinion on transaction between Claro Peru and Telefonica Peru.

- **Falkland Islands: Government, 2015 [Telecommunications Regulation]**

Expert opinion on the application of a price control on monopoly provider Sure.

- **UK: Talk Talk (Carphone Warehouse Group), 2009 [Consultation Response]**

Expert report commenting on Ofcom's proposals A New pricing Framework for Openreach, (Second Consultation) 5 December 2008. Examined international benchmarking evidence used by Ofcom. Additionally TalkTalk inquired into the likely impact Ofcom's proposals might have on broadband uptake in the UK. "[Increasing the regulated prices of BT Openreach is unnecessary and will undermine Digital Inclusion](#)".

- **Australia: SingTel Optus, 2009 [Spectrum Merger Analysis]**

Report for submission to the ACCC on competition implications of merged spectrum holdings for proposed merger between Hutchison and Vodafone in Australia.

- **Hong Kong: HK Broadband Network, 2009 [LRIC Modelling]**

Report for submission to OFTA “Calculating LRAIC for FMIC in the HKBN vs. MNOs case under determination by OFTA: The case for using HKBN company accounts to compute FMIC” in relation to a dispute between HKBN and the mobile network operators.

- **UK: Solaris Mobile, 2008 [Mobile Communications, Spectrum Pricing]**

Report and review submission to Ofcom consultation “Authorisation of terrestrial mobile networks complementary to 2 GHz mobile satellite systems” Second Consultation, expert report “[The 2GHz MSS bands, CGC and AIP: A Critique of Ofcom’s Proposals and an Alternative Policy Proposal](#)” attached as appendix.

- **UK: HSL, 2007 [Competition Act case]**

Economic advice to private client in relation to a Chapter II 1998 Competition Act case before Ofcom. Issues: refusal to deal, excessive pricing and alleged abuse of dominance. Market: wholesale termination of SMS.

- **Portugal: Anacom, 2006 [Merger Transaction]**

Advising on the competition implications of the bid submitted by Sonae for Portugal Telecom. Report submitted examining market analysis of the mobile and fixed sectors in the context of the proposed merger. Prepared suggested remedies to address competition concerns.

- **UK: Home Shopping Network Inc., 2006 [Competition Act case]**

Prepared expert economists report on market definition in a competition case involving an alleged abuse of dominance. The focus of the report was on two-sided markets. Worked closely with lawyers from Gibson Dunn & Crutcher.

- **Europe: European Commission, 2005 [Abuse of dominance case, Telecommunications]**

Advice in relation to Statement of Objections regarding an Article 82 abuse of dominance case involving two mobile network operators in the UK. Market: national market for international roaming onto cellular networks. Alleged abuse relates to excessive pricing.

- **UK: Public Electronic Communications Network, 2005 – 2006 [Abuse of dominance case, Telecommunications]**

Economic advice to private client in relation to a Chapter II 1998 Competition Act case before Ofcom. Issues: refusal to deal, excessive pricing and alleged abuse of dominance. Market: wholesale termination of SMS.

- **Ireland: ComReg, 2004 – 2005 [Telecommunications]**

Expert opinion on a mobile access and call origination appeal case before the Electronic Communications Appeal Panel, appellant Hutchison 3G Ireland. Area of dispute: price of the wholesale interconnect service mobile termination.

- **Europe: Major European ISP, 2002 – 2003 [Abuse of Dominance]**

Advice on competition issues related to alleged leverage of dominance by an incumbent telecommunications operator, and submitted expert opinion.

Telecom Structural Separation, Regulation and Investment

- **Australia: SingTel Optus, 2009**

Provide advice and write report on appropriate functional separation in the Australian telecommunications post-National Broadband Network tender competition. Report was presented to policy makers in Canberra and to the Minister: “[Structural separation and investment in the National Broadband Network environment](#)”.

Regulation and Policy

- **Falkland Islands: Government 2004 – 2013**

Retained by the Falkland Islands Government to provide advice on the reform and regulation of the telecommunications and communications sectors. Addressing legislation requirements and assisting the FIG in negotiations with Cable & Wireless Falkland Islands.

- **Bermuda: Government, Ministry of Energy, Telecommunications and E-commerce 2010**

Report for on market definition and analysis methodologies in relation to a dispute regarding service providers supplying consulting services to the Ministry

- **Bangladesh: Telecommunications Regulatory Commission, 2009**

Report on the future regulatory framework governing telecommunications in Bangladesh. On-site meetings with the Commission and meetings with senior representatives of all stakeholders and interested parties.

- **Hong Kong: HK Broadband Network, 2008**

Report for submission to OFTA on interconnection and termination rates in relation to a dispute between HKBN and the mobile network operators.

- **Mongolia: Communications Regulatory Commission 2006 – 2008**

Design of the interconnection regime and rates, framework and modeling, plus advice on the application of dominance concept. Implementation and design of regulations dealing with the structural separation of the incumbent operator.

- **Tanzania: Telecommunications Regulatory Authority, 2006 [Training]**

One week on site training programme for 20 communications regulatory staff in Tanzania on the following topics: (i) Competition policy – market definition and market analysis relevant to network industries (ii) Price regulation – price caps, price floors and margin squeeze (iii) Spectrum management policy – auctions, secondary trading and administrative incentive prices (iv) Interconnection – costs, forward looking LRIC, sender keeps all, ECPR (retail minus) (v) Numbering – economics of portability.

- **British Virgin Islands: Government, 2005 – 2006**

Retained advisor to the BVI Government on the liberalization of the telecommunications sector. Member of Government liberalization negotiation team. Undertook cost study analysis to assess viability of competition in the cellular market, tariff analysis, and other related issues.

Qualifications

1986 – 1988	MA Economics, Cambridge University, UK
1983 – 1985	PhD Economics, Warwick University, UK
1981 – 1982	MA Economics, Warwick University, UK
1978 – 1981	BSc (Hons) Economics, Cardiff University, Wales [1st class distinction]

Publications (sample)

Essentials of Modern Spectrum Management [book]

August 2007 Cambridge University Press (translated Thai and Korean editions) with William Webb and Martin Cave

Collective Dominance, Market Analysis and the 2002 EU Framework Directive: The case of mobile access and call origination in Ireland

Digital Economic Dynamics: Innovations, Networks and Regulations, edited by Paul J.J. Welfens and Mathias Weske, chapter 7 pp. 141-170, Springer Press 2007

Where are we going? Technologies, markets and long-range policy issues in European communications

Information Economics and Policy, 2006, 242-255 with Martin Cave and Luigi Prosperetti
Bank Review, no. 3, 23-38, December 1994 with Martin Weale

Employment History

2022 – present	Head of Telecoms and Senior Advisor, CEPA, London, UK
2018 – 2021	Principal, Ofcom, London, UK
2012 – 2018	Principal Teaching Fellow, Department of Economics, Warwick University, UK
2008 – 2011	Senior Teaching Fellow, Warwick Business School, UK
2002 – 2003	Visiting Lecturer Economics, London School of Economics
2002 – 2008	Apex Economics, Warwick, UK
2000 – 2001	VP Charles Rivers Associates (UK) Ltd, UK
1999 – 2000	Director, London Economics Ltd, UK
1998 – 1999	Adjunct Professor Economics, INSEAD, France
1996 – 1999	Senior Research Fellow, London Business School, UK
1991 – 1992	Professor in Economics, CERGE, Charles University, Prague, Czech Republic
1988 – 1989	Visiting Professor in Economics, Queen’s University, Ontario, Canada
1986 – 1991	Fellow in Economics, Gonville and Caius College, Cambridge, UK

1985 – 1995	Junior Research Officer, Research Officer, Senior Research Officer, Department of Applied Economics, Cambridge University
1985 – 1986	Teaching Officer in Economics, St John's College, Cambridge
1984 – 1985	Lecturer, Department of Economics, University of Essex

Dr Jonathan Mirrlees-Black – Director

Summary of experience

Jonathan has over 25 years' of experience as an economist and finance professional in infrastructure, as a sell-side and buy-side investment analyst and as an advisor to global infrastructure companies, regulators, international organisations, and private equity investors. He is the Director of CEPA's Sydney office. In addition he is a Senior Advisor with HRL Morrison & Co, a New Zealand based infrastructure fund manager with over \$20bn AUM.

From 2010-15 he was Senior Advisor then Head of Research at RARE Infrastructure, a Sydney-based specialist investor in global listed infrastructure (communications infrastructure, energy networks, water, roads, rail, ports and airports) with a long-term value-based investment approach. Jonathan has a deep understanding of the valuation of infrastructure and related services from over 20 years of buy- and sell-side experience in financial markets. This has included research and analysis of evolving telecoms markets as competition was introduced and mobile services evolved. At RARE Infrastructure, Jonathan was instrumental in the research and analysis of telecoms towers businesses, leading to investments of over \$1bn in these assets.

Jonathan is also experienced in supporting clients in litigation support and as expert witness, being involved both in regulatory determinations, and in infrastructure access legal processes.

Selected project experience

Telecoms

- **New Zealand: Asset beta, leverage and credit rating, New Zealand Commerce Commission, 2019**
CEPA was engaged by the Commission to provide advice on the asset beta, leverage and credit rating for providers of fibre telecommunication services in New Zealand. CEPA's expert report was published as part of the Commission's consultation on the new regulatory framework for fibre providers. CEPA is providing ongoing support to the Commission during the Consultation phase. Jonathan is the Project Director for this work.
- **New Zealand: Fibre Regulation - Commerce Commission, 2018**
The New Zealand government decided to establish a new incentive based regulatory framework for fibre services. Jonathan directed work for The Commerce Commission on the approach to regulation of the quality dimensions of wholesale fibre telecommunications services. The final report is available at www.comcom.govt.nz.
- **Australia: Infrastructure research, RARE Infrastructure, 2011-15**
As Head of Research for RARE Infrastructure, Jonathan has overseen the investment research supporting portfolio decisions of global listed infrastructure companies in energy, water, transport and communications across the globe. Companies analysed have a total market capitalisation of over US\$2 trillion. He ensured that RARE had a full understanding of the regulatory / contractual framework for listed infrastructure companies and that this was appropriately represented in the financial model and valuation, and facilitating the effective communication of this research and portfolio decision making. The work also included analysis of transactions and their financial implications.
- **Europe: telecoms research 1994 - 2009**
Jonathan had responsibility for sell-side coverage of European utilities at investment banks. In these roles he analysed and valued the telecoms assets and activities of these companies, in the UK, Germany, Spain and Italy, with a number of specific telecoms publications.

Expert commercial advice

- **Australia: Expert Determination, 2021-ongoing**
Jonathan was appointed as an independent expert to determine the reasonableness of a charge for the use of an infrastructure asset.
- **Australia, Review of Port of Melbourne's Rate of Return Methodology & Calculations, Essential Services Commission (ESC), 2020**
Jonathan directed a project was commissioned by the ESC to examine the port's rate of return methodology and provide an opinion on the port's compliance with regulatory requirements.

- **Australia: due diligence for infrastructure asset, confidential client, 2019**

Jonathan was director of a joint team of CEPA and Oxford Economics providing commercial and economic advice for a consortium of infrastructure investors in a key infrastructure asset. The team provided due diligence support to the investors and presented financial forecasts to prospective lenders.

- **New Zealand: Advice on cost of capital, New Zealand Commerce Commission, 2016**

Jonathan provided expert advice on cost of capital to NZCC in its review of input methodologies. In particular, he advised on the approach to reviewing equity beta and the market risk premium.

Infrastructure Investment

- **Australia / New Zealand. Senior Adviser to Infrastructure Fund, 2018-**

Jonathan is currently a senior advisor to HRL Morrison & Co, a New Zealand based company with over \$20bn under management. He advises the Investment Committee (including CEO, CFO, CIO and division heads) on macroeconomics, global economic scenarios, and the implications for listed and unlisted infrastructure assets. He also engages with MCO's clients, which include Australia's Future Fund and New Zealand's Commonwealth Superannuation Corporation on economic issues.

- **Australia: Cost of capital for global listed infrastructure companies, RARE Infrastructure 2011-15**

One of Jonathan's roles as Head of Research for a listed infrastructure fund was setting the cost of capital used for valuing listed infrastructure companies. This involved both choosing the appropriate CAPM methodology as well as estimation of appropriate parameters, and the key elements of the approach was published in a paper The RARE cost of capital, which has been referenced both by regulators including IPART and the AER in their cost of capital determinations. Challenges included developing and implementing a globally consistent approach to estimating equity and asset betas for companies in different infrastructure sectors in a range of developed and developing markets, as well as an appropriate judgement on the forward looking equity market risk premium.

Qualifications and training

1999	University of Oxford (St. John's College), D.Phil. Economics
1987	University of Oxford (St. John's College), M.Phil. Economics
1985	University of Sheffield, B.A. Pure Mathematics, First Class Honours
2013	Fellow, Australian Institute of Energy

Employment history

2016 – Present	Director, CEPA, Sydney, Australia
2018 - Present	Senior Advisor, HRL Morrison & Co, Sydney Australia / Wellington New Zealand
2013 – 2020	Honorary Professor / Visiting Professor, University College London
2011 – 2015	Head of Research, Chair of Investment Advisory Board, RARE Infrastructure, Sydney, Australia
2010 – 2011	Senior Advisor, Member of Investment Advisory Board, RARE Infrastructure, Sydney, Australia
2009 – 2015	Senior Advisor, CEPA
2004 – 2009	Head of Utilities Research (2004-07), Cross-sector analyst (2007-09), Exane BNP Paribas, London, UK
2003 – 2004	Director, CEPA, London, UK
1999 – 2002	Executive Director, Head of European Utilities Research, Lehman Brothers, London, UK
1996 – 1999	Director, European Utilities Analyst, Dresdner Kleinwort Benson, London, UK
1995 – 1996	Principal Associate, Coopers & Lybrand, London, UK
1990 – 1995	Assistant Director, European Utilities Research, Union Bank of Switzerland, London, UK
1988 – 1990	Analyst, Corporate Planning, British Petroleum Company, London, UK
1986 – 1988	Lecturer in Economics, Exeter College Oxford, UK



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