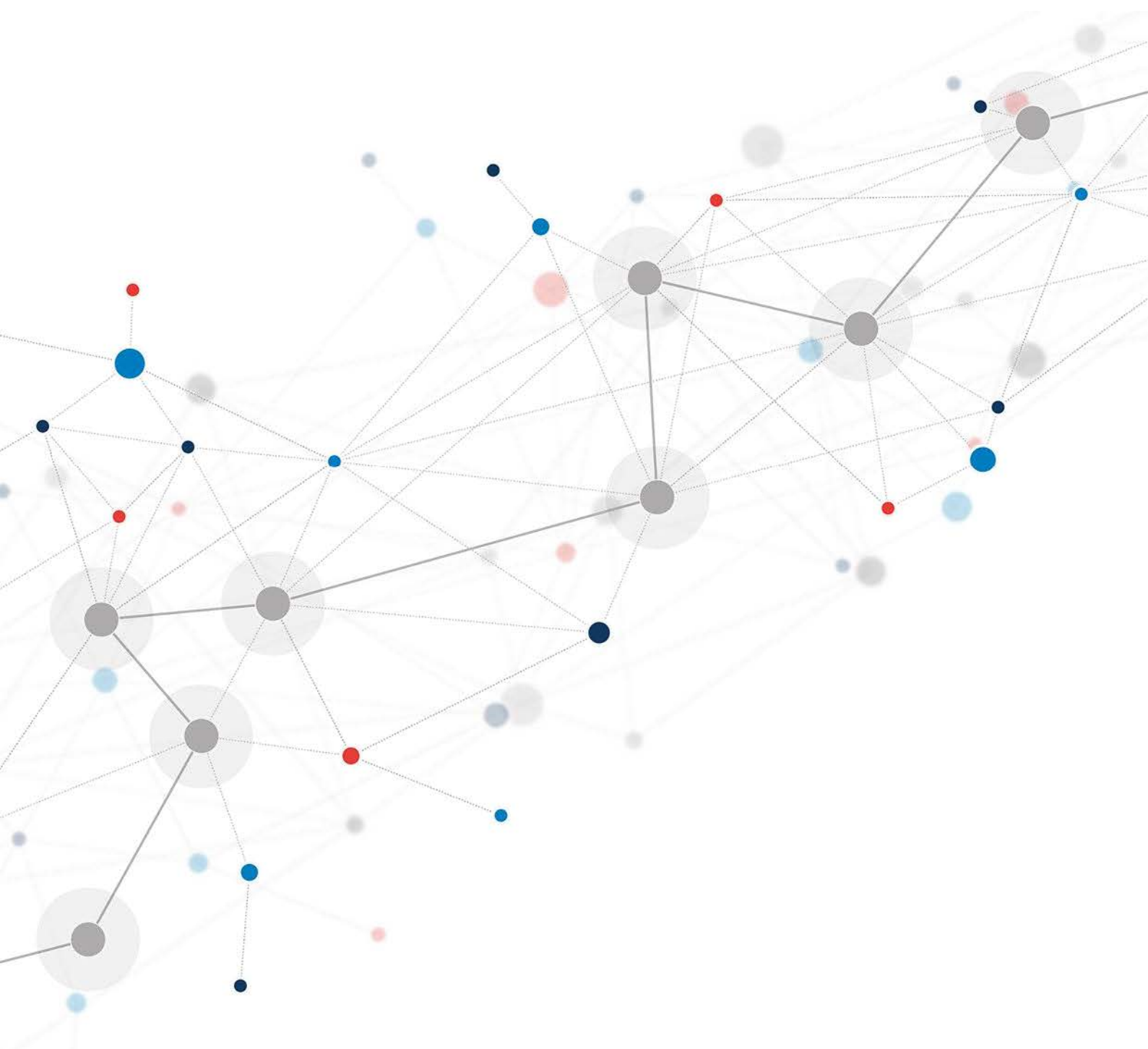

REPORT ON BEHALF OF TPG ISSUES RAISED IN THE ACCC'S STATEMENT OF PRELIMINARY VIEWS ON PROPOSED TELSTRATPG AGREEMENT

Second Expert Report of Dr Jorge Padilla

2 November 2022

Confidential Restriction on Publication Claimed in Part

Public Version



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INTRODUCTION

Credentials

- 1.1 My name is Jorge Padilla. I am a Senior Managing Director and the Head of Compass Lexecon EMEA. Compass Lexecon is a global economic consultancy, part of FTI Consulting, Inc.
- 1.2 I am the same Jorge Padilla who made the expert report of 26 July 2022 (**my First Report**).
- 1.3 Unless otherwise stated, capitalised terms in this report have the same meaning as those defined in my First Report.

Instructions

- 1.4 As set out in Exhibit A, I have been instructed by Corrs Chambers Westgarth on behalf of TPG Telecom Limited (**TPG**) to provide an independent expert report on:
 - a. whether I continue to hold the view set out in my First Report that the proposed network sharing agreement between TPG and Telstra Corporation Limited (**Telstra**) entered into on 21 February 2022 (**the Proposed Transaction**) can be expected to increase competition to the overall benefit of mobile users; and
 - b. provide my response to the views presented in the ACCC's Statement of Preliminary Views of 30 September 2022 (**the SOPV**) in relation to potential effects of the Proposed Transaction on the prices of TPG, Telstra and Singtel Optus Pty Ltd (**Optus**) and on infrastructure competition.
- 1.5 I have been instructed to assume that:
 - a. the average annual data usage of post-paid customers in each region by customer region in 2021 is as set out in the table below:

Annual data usage by post-paid customers in each region by customer region in 2021

| Customer region | Region 1 (in GB) | Region 2a (in GB) | Region 2b (in GB) | Region 3 (in GB) | Unknown (in GB) | Total (in GB) |
|-----------------|------------------|-------------------|-------------------|------------------|-----------------|---------------|
| Region 1 | | | | | | |
| Region 2a | | | | | | |
| Region 2b | | | | | | |
| Region 3 | | | | | | |
| Unknown | | | | | | |
| National | | | | | | |

Notes: (i) Region 1 encompasses 0-67% of the population (i.e. approximately [REDACTED] people) and consists of capital cities and major metropolitan areas; (ii) Region 2a encompasses 67-80% of the population (i.e. approximately [REDACTED] people) and consists of larger regional centres such as Cairns and Ballarat and the metro outskirts; (iii) Region 2b encompasses 80-96% of the population (i.e. approximately [REDACTED] people) and consists of regional towns and areas such as Dubbo and Mildura; and (iv) Region 3 encompasses 96%+ of the population (i.e. approximately [REDACTED] people) and consists of remote Australia and inland outback areas.

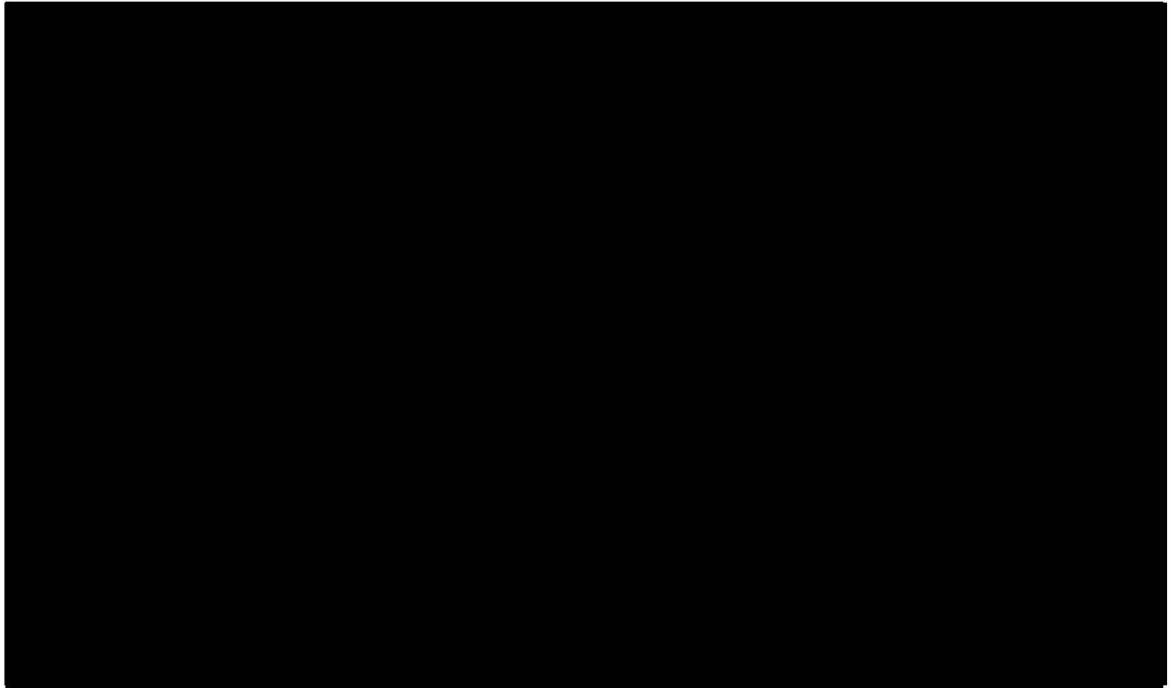
- b. total annual data usage of customers from all regions will increase by [REDACTED] in 2022;
- c. in 2022 consumers' data usage in Region 2b (80-96%) and Region 3 (96%+) relative to the other regions will be [REDACTED] in 2021 for all customer regions, except customers in Region 3 are expected to use [REDACTED] data in Region 2b and 3 with increased coverage. Data usage of customers from Region 3 in Regions 2b and 3 relative to other regions will be [REDACTED] the relative usage of customers from Region 2b in these regions;
- d. churn rate of Telstra's post-paid customers is [REDACTED]% in the Regional Coverage Zone, while it is [REDACTED]% in Region 1 and 2a; and
- e. the number of MNOs' customers in 2021 and the number expected in 2031 under the ACCC's preliminary view of a counterfactual of a TPG targeted build together with TPG relying on Optus' roaming services (**SOPV Counterfactual**) and under the Proposed Transaction are as set out in the table below:

Number of customers of MNOs in 2021 and 2031 by regions

| Customers | 2021 (000's) | 2031 under SOPV Counterfactual (000's) | 2031 under Proposed Transaction (000's) |
|----------------------------|-----------------|----------------------------------------------|-----------------------------------------------|
| Region 1 | | | |
| Telstra | | | |
| Optus | | | |
| TPG | | | |
| Regions 2a + 2b + 3 | | | |
| Telstra | | | |
| Optus | | | |
| TPG | | | |
| Combined | | | |
| Telstra | | | |
| Optus | | | |
| TPG | | | |

- f. TPG's variable cost of data in 2021/22 was [REDACTED] per GB across all its network. In addition, TPG's cost of access of [REDACTED] per SIO per month. Combined, these costs are equivalent to a blended full cost per GB of [REDACTED].
- g. Telstra estimates its costs per site to vary between regions as follows:

Telstra estimates for its site costs by area, \$'000s



- h. in 2021 MNOs had [REDACTED] total customers in Region 2b and [REDACTED] total customers in Region 3 and their market shares in each region were
 - i. in Region 2b Telstra had [REDACTED], Optus [REDACTED], and TPG [REDACTED]; and
 - ii. in Region 3 Telstra had [REDACTED], Optus [REDACTED], and TPG [REDACTED];
- i. in 2031 Optus' market shares under the Proposed Transaction are expected to be [REDACTED]% in Region 2b and [REDACTED]% in Region 3.
- j. in 2022, Telstra had 8.740 million post-paid retail mobile customers and 3.307 million pre-paid retail mobile customers; and
- k. Optus' cost of upgrading an existing site for 5G technology is \$[REDACTED].
- l. Optus' mobile customers had an ARPU in 2021 of \$[REDACTED] per month.

Preparation of this report and acknowledgement of my duties as an expert

- 1.6 For the purpose of this opinion, I have been provided with, reviewed and relied on the documents listed in Exhibit B.
- 1.7 In preparing this opinion, I have made reference to and relied on various other documents, reference materials and other authorities. I have identified those documents, reference materials and authorities at relevant points in this opinion and they are listed in Exhibit C.
- 1.8 In the preparation of this report, I have been assisted by a number of my colleagues at Compass Lexecon including Paul Reynolds, Ciara Kalmus and Hamid Aghadadashli. The opinions expressed in this report are my own.
- 1.9 I confirm that I have read the Federal Court's Expert Evidence Practice Note and the Harmonised Expert Witness Code of Conduct and agree to be bound by them.

SUMMARY

- 2.1 I have been instructed to:
- a. confirm whether I continue to hold the view set out in my First Report that the Proposed Transaction can be expected to increase competition to the overall benefit of mobile users; and
 - b. provide my response to the views presented in the SOPV in relation to potential effects of the Proposed Transaction on the prices of TPG, Telstra and Optus and on infrastructure competition.
- 2.2 I confirm that I continue to hold the view that the Proposed Transaction can be expected to increase competition to the overall benefit of mobile users. I consider that a major source of the benefit to competition and mobile users is that the Proposed Transaction would immediately and substantially increase TPG's coverage and quality. As the ACCC's Mobile Roaming Declaration Inquiry report noted: "*mobile coverage and quality of services are vital issues for consumers and businesses in regional, rural and remote areas of Australia.*"¹ Further, as the SOPV notes:
- "...coverage in regional and remote areas is valued not only by consumers who live and work in those areas, but also by metropolitan consumers...The ACCC considers that the extent of Telstra's network provides an enduring competitive advantage in downstream markets and is a strong contributor to its high market shares...[and which Telstra noted underpins its] price premium."*²
- 2.3 In making TPG a stronger competitor and a more credible alternative for many customers, the Proposed Transaction can be expected to drive increased price and quality competition. I expect a significant overall benefit to consumers, particularly in terms of lower quality-adjusted prices, greater choice between high quality services and continuing incentives for Telstra and Optus to improve their regional networks.
- 2.4 The ACCC notes the potential for increased price-based competition "*at least in the short term*". However, the ACCC also seeks views on whether there are risks of:
- a. TPG's payments to Telstra under the Proposed Transaction adversely impacting TPG's costs and prices and Telstra's incentive to compete on price; and
 - b. the Proposed Transaction undermining the incentive for regional infrastructure investment.
- 2.5 As instructed, I have examined these concerns in this report.
- 2.6 With respect to effects on TPG's costs and prices, I consider that the Proposed Transaction would:
- a. significantly reduce TPG's quality-adjusted prices;
 - b. would result in a significantly lower variable cost for TPG in providing data in the Regional Coverage Zone than under the **SOPV Counterfactual**; and

¹ ACCC, Mobile roaming declaration inquiry final report, p.2.

² SOPV, para. 3.15.

-
- c. would be likely to result in lower costs for TPG than under a network sharing arrangement with Optus, particularly if TPG were to be able to offer broadly equivalent services and if the ACCC prevented the Proposed Transaction which would strengthen Optus' bargaining position in any hypothetical future negotiation with TPG in relation to a network sharing arrangement.

2.7 With respect to effects on the prices of Optus and Telstra, I consider that the Proposed Transaction is likely to result in a significant reduction in their prices driven by customers' likely increased willingness to switch to TPG when it can offer better coverage and by the need for Optus and Telstra to compete with TPG's lower quality-adjusted prices. My view takes into account the effect of TPG's wholesale payments to Telstra which I assess to be relatively small by comparison with Telstra's revenue from supplying retail customers and the increased competitive constraint on Telstra's prices.

2.8 With respect to effects on infrastructure competition, I consider that:

- a. TPG's ability to offer much better coverage will increase the competitive pressure on Optus and Telstra to invest to improve their services;
- b. Optus will continue to invest to improve its regional network because I calculate that Optus would face a higher cost if it does not do so in terms of losing its customers for whom regional coverage is important;
- c. while the Proposed Transaction can be expected to negatively impact Optus financially compared with the SOPV Counterfactual, Optus will remain an effective competitor given it has the means to respond by cutting prices and investing in quality, and in doing so, generate additional benefits to consumers;
- d. little weight can be attached to the loss of TPG's threat of future network expansion as the evidence suggests TPG would be highly unlikely to invest significantly more in its regional network absent the Proposed Transaction; and
- e. TPG's competitive position in the future is unlikely to be weak at the time of negotiating any future sharing arrangement given that both Telstra and Optus can be expected to prefer to have TPG join them than join the other and, even more so, if TPG can bring to those networks a significant regional customer base.

LIKELY EFFECTS ON TPG'S PRICES

3.1 The ACCC invites views on TPG's pricing incentives noting (para. 5.40) that it would offer better quality but that its costs to serve additional customers might be higher than currently. The ACCC also notes (para. 5.22) that TPG's costs under a roaming agreement with Optus might be higher than under a MORAN or MOCN agreement.

3.2 In this section, I:

- a. set out the key factors which I consider are likely to impact TPG's quality-adjusted prices;
- b. assess TPG's likely costs of relevance to pricing under the Proposed Transaction and under the SOPV Counterfactual and a potential subsequent active network sharing agreement with Optus³; and
- c. conclude by providing my view as to the likely overall impact on TPG's quality-adjusted prices.

Key factors likely to impact prices

3.3 In my First Report, I set out the reasons for my view that the Proposed Transaction's price-related effects are likely to benefit consumers relative to alternative counterfactuals including through:

- a. lower quality-adjusted prices for TPG's products on which higher quality/coverage is offered;
- b. lower quality-adjusted prices of Telstra and Optus as a result of the need to respond to TPG's lower quality-adjusted prices as well as the impact of the Proposed Transaction in making TPG a closer competitor to Telstra and Optus; and
- c. benefits to price-sensitive consumers as a result of downward market pressure on prices (which can be expected to lead to lower prices for offers targeting price-sensitive consumers), TPG's lower cost to provide additional quality (leading to a lower increment in prices for price-sensitive consumers who nonetheless want or need higher coverage) and increased capacity for MVNOs and for fixed wireless services (which is likely to support increased competition and lower prices for such services); and
- d. Optus remaining as a strong competitor.

3.4 I consider that the effects set out in my First Report are likely to be the most significant price-related effects of the Proposed Transaction.

3.5 It is important to consider prices together with the quality of service being offered, i.e. a measure of quality-adjusted prices. As noted by the ACCC⁴, both regional and many metro customers attach significant value to coverage and other aspects of quality. Customer research for TPG found that █████ of survey respondents in Region 2b+3 and █████ in Region 1 listed network coverage as the main reason for choosing their current brand.⁵ The large price premia which Optus and Telstra

³ At the end of the section, I also consider the alternative of TPG reaching a network sharing agreement with Optus.

⁴ SOPV, para. 3.15.

⁵ See "Updated Regional Network Research 1a vs 2a vs 2b + 3 07.10.2022" (*TPG, Regional Network Research*), p.3.

charge over TPG's prices (in the order of 38% and 62%⁶) suggests high customer valuations for quality.

3.6 As noted in my First Report (para. 6.12), quality improvements tend to lead to price increases which are significantly less than the increase in customers' valuation of the additional quality. This is consistent with the evidence of the large fall of 51.3% in feature-adjusted mobile prices found by the ACCC for the period 2016-17 to 2020-21⁷ - the size of the fall is unlikely to be explained by changes in competition or reductions in general costs over the period.

3.7 In addition, by increasing customers' willingness to switch to TPG, the Proposed Transaction can also be expected to create significant downward pressure on the prices of Telstra and Optus. The customer research for TPG found that [REDACTED] of Telstra network customers and [REDACTED] of Optus network customers would currently not consider switching to TPG or Vodafone (the range reflecting differences between regions).⁸ I consider it reasonable to expect that when TPG can offer coverage greater than Optus and closer to Telstra's coverage, many of these customers would be willing to switch.

3.8 I next consider the likely effect of the Proposed Transaction on TPG's costs.

Likely effect on TPG's costs and implications for TPG's prices

3.9 The SOPV (para. 5.38) has raised whether the range of fixed and variable fees which TPG would pay Telstra under the Proposed Transaction would alter TPG's cost structure and whether this would likely result in higher prices for its mobile services.

3.10 As an initial general observation, I note that TPG would only be expected to incur the cost of the payments to Telstra under the Proposed Transaction if it expected to earn compensating benefits from significant additional sales. TPG will only attract additional sales if it can offer better value to its customers compared with its competitors. This was one of the reasons set out in my First Report as to why I expected that TPG's quality-adjusted prices to fall as a result of the Proposed Transaction and to lead to Telstra and Optus reducing their quality-adjusted prices in response to seek to limit customer churn.

3.11 In considering TPG's costs, it is useful to distinguish:

- a. variable costs of data which can be expected to be a key factor determining the effective incremental price for data (e.g. such as the price difference between bundles with different data allowances);
- b. variable costs of acquiring additional subscribers including the cost of supplying their data usage; and
- c. overall costs.

3.12 In this report I focus on variable costs of data and acquiring additional subscribers as these costs are most directly relevant for pricing. Nonetheless, operators will also need to recover their overall costs through their overall revenues if they are to remain viable. There is a risk that if an operator fails to attract sufficient customers it will be deterred from making network investments with a fixed cost element because these are not expected to be profitable given the scale of the fixed costs.

⁶ My First Report, Table 8.

⁷ ACCC Communications Market Report 2020-21, Table 5.4.

⁸ TPG, Regional Network Research, p.8-9.

3.13 In setting nationally uniform prices, operators can be expected to set prices that are a compromise between the prices that would otherwise be optimal in the different areas.⁹ In this regard, I consider it relevant to consider the average variable costs across regions, weighted by the share of traffic or subscribers in each region.

Variable costs of data

3.14 Mobile customers tend to choose between plans with different data allowances (and often with unlimited domestic voice calls and texts). Current and forecast rapid growth in data demand makes the effective price for data an important determinant of customer benefits. As noted in my First Report (para. 3.41), an Analysys Mason report for the ACCC forecasts that mobile data usage in Australia will be over four times higher in 2026 than in 2020.

3.15 In the areas outside the Regional Coverage Zone, I do not expect there to be a difference in TPG's variable cost of data as a result of the Proposed Transaction.

3.16 Under the Proposed Transaction, in the Regional Coverage Zone, TPG would pay Telstra an initial charge of [REDACTED] per GB of data in the MOCN area. [REDACTED]¹⁰

3.17 I am instructed to assume that under a roaming agreement with Optus, TPG would pay a charge of [REDACTED] per GB for 4G roaming.¹¹ The ACCC considers (para. 5.22) the higher charges of roaming to be a reason to expect TPG to invest more in infrastructure than under a MOCN.

3.18 In areas where TPG maintains its own network in the Regional Coverage Zone, it would face the cost of its own network. I expect that to supply increasing volumes of data, TPG would face costs relevant to its pricing including:

- a. the opportunity cost of using spectrum to supply additional data rather than to sell or lease the spectrum to other players (the ACCC notes the high prices paid for spectrum in the secondary market¹²);
- b. costs of deploying additional sites once current network capacity in an area becomes congested; and
- c. costs of additional backhaul capacity, electricity and more general opex required to support additional capacity.

3.19 [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]¹³
[REDACTED]
[REDACTED]

3.20 [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

⁹ See, for example, T.M. Valletti, S. Hoernig and P.P. Barros (2001), "Universal Service and Entry: The Role of Uniform Pricing and Coverage Constraints". *Journal of Regulatory Economics* 21, p. 9-10.

¹⁰ Telstra TPG MOCN - Authorisation Application para. 116(c).

¹¹ My First Report, para. 1.6.a.iii.

¹² SOPV, para. 2.14.

¹³ [REDACTED]

Table 1: Average capex cost per person captured by Telstra sites in metropolitan, regional and remote areas

| | Metropolitan areas (81.4% population) | 17% Regional Coverage Zone | Remote areas (0.7% population) |
|------------------------------|------------------------------------------|-------------------------------|-----------------------------------|
| Site count | 6,200 | 3,700 | 900 |
| Population | 20,919,800 | 4,471,800 | 179,900 |
| Captured population per site | 3,374 | 1,209 | 200 |

Source: Telstra internal data. Site count and population data is based on publicly available information.

Captured population per site is the "Population" divided by "Site Count"

3.21 Table 1 contains Telstra's capex costs per site for metropolitan, regional and remote areas.¹⁴

[Redacted]
[Redacted]
[Redacted] Table 2.

Table 2: Telstra estimates for its site capex costs by area, \$'000s

[Redacted Table Content]

Source: Telstra estimates

3.22 [Redacted]
[Redacted]
[Redacted] I therefore consider that it is reasonable to expect that the average variable cost per GB to be higher in the Regional Coverage Zone than in the rest of TPG's network.

3.23 The estimates of TPG's variable costs of data are also consistent with international estimates. The European Commission has estimated a range for the Long Run Incremental Costs (LRIC)¹⁵ plus

¹⁴ Telstra TPG MOCN - Authorisation Application, Table 1, page 18.

¹⁵ The LRIC of a service is the additional costs incurred in offering the service assuming that the operator is already offering its other services. I consider that this is a reasonable approximation for the average variable costs of supplying data.

allocation of joint and common costs of mobile data of €0.5 to €1.50 per GB in 2025.¹⁶ While this was part of modelling undertaken for data roaming, the estimated range excludes transit costs and hence shows the costs of supplying data domestically in the analysed countries. The range reflects the variation of costs across European countries. The European Commission's estimates are based on an Axon mobile cost model according to which LRIC (i.e. excluding an allocation of joint and common costs) is 30% of the estimate including the allocation.¹⁷ This suggests a range of LRIC for data of €0.15 to €0.45 per GB in 2025. This translates to range of LRIC of around \$0.23 to \$0.70 per GB in 2025 (at the current exchange rate of 1 EUR = 1.55 AUD). The ACCC also applies a Purchasing Power Parity adjustment when considering international cost estimates to account for differences in general costs between countries.¹⁸ I estimate the average PPP adjustment for the European countries considered in Axon mobile cost model as 1.53 using the methodology applied by Analysys Mason in its model for the ACCC.¹⁹ This suggests a range of LRIC of \$0.36 to \$1.07 per GB, with a mid-point of \$0.71 per GB.

- 3.24 On the basis of [REDACTED] European Commission estimates, I assume that the incremental cost of data in the targeted build area is likely to be higher than the price for data which TPG would pay Telstra under the MOCN although there is significant uncertainty over the precise estimate given that it is a mid-point of a range and that I have not undertaken of more detailed analysis of whether TPG's targeted build costs might be higher or lower than the costs of European operators.
- 3.25 The fact that the incremental cost of data is likely to be higher in the targeted build than the per GB charge under the Proposed Transaction is expected given that the MOCN Services Agreement effectively recovers the cost of data supplied to TPG through a three-part tariff (i.e. also by means of the fixed annual charge and the per SIO charge).
- 3.26 Table 3 shows that the national average variable cost of data is likely to be lower in the Proposed Transaction than under the SOPV Counterfactual. The precise difference will depend on the shares of traffic in the targeted build versus the roaming area and the precise incremental cost for data in the targeted build area. I take these cost estimates into account in considering a national average variable cost for subscribers in next.

¹⁶ European Commission Staff Working Document on the review of the roaming market, p.58.

¹⁷ This is estimated as a ratio of sum of incremental opex and capex costs of domestic retail traffic data to the total opex and capex costs of domestic retail traffic data. The total opex and capex costs of domestic retail traffic data is the sum of incremental opex and capex costs, common NW costs opex and capex costs, and G&A opex costs. The Axon cost model is provided by European Commission here: <https://digital-strategy.ec.europa.eu/en/library/finalisation-mobile-cost-model-roaming-and-delegated-act-single-eu-wide-mobile-voice-call>.

¹⁸ See ACCC, Public inquiry on the access determination for the Domestic Mobile Terminating Access Service – Final Report (2020), p.37.

¹⁹ I have used 2021 data on PPP conversion factor and official exchange rates from the World Bank. For the annual exchange rates from EUR to USD I have used Eurostat data, as this was not available from the World Bank. See also Analysys Mason, "Inputs and outputs of MTAS benchmark", for the calculation methodology.

Table 3: TPG's estimated variable cost of data

| | Regions 1 and 2a | Targeted build area | Remainder of the Regional Coverage Zone |
|----------------------|------------------|-------------------------|-----------------------------------------|
| Proposed Transaction | No difference | ██████████ | ██████████ |
| SOPV Counterfactual | | ██████████ 0.71 per GB* | ██████████ |

*Based on TPG's national average variable cost per GB and the midpoint of the European Commission range. As noted above, actual costs in the targeted build area are likely to be ██████████ than TPG's average national cost.

Variable costs per subscriber

3.27 Under the Proposed Transaction, TPG would pay Telstra a charge per SIO as well as the data price. ██████████
 ██████████
 ██████████
 ██████████

3.28 TPG can be expected to price its services so as to recover this charge. To assess the impact of this charge, I estimate how TPG's costs might differ in each area and also nationally between the Proposed Transaction and the SOPV Counterfactual. I ignore costs which do not differ between the two scenarios. Therefore, I only consider the additional costs specific to the Proposed Transaction and the SOPV Counterfactual to estimate the likely cost difference between the two scenarios.

3.29 First, I consider the Proposed Transaction. The SIO and data payments would increase TPG's costs per subscriber in different areas with the payments varying depending on how much data in the Regional Coverage Zone is used by TPG's customers residing in different areas. Most of TPG customers are located in metropolitan areas and have relatively low data usage in the Regional Coverage Area. By contrast, data charges will be more significant to supply customers in the Regional Coverage Zone (which I assume is equivalent to Regions 2b and 3). On the basis of my Instructions, a TPG SIO uses ██████████ in the Regional Coverage Zone per year, resulting in a monthly cost of data per SIO of ██████████. Together with the per SIO fees of ██████████, this results in an average incremental cost per SIO relating to payments to Telstra of ██████████ (see Table 4).

Table 4: Data usage by TPG post-paid customers in the Regional Coverage Zone, GB per SIO and estimated additional TPG cost per SIO under the Proposed Transaction

| Customer location | Monthly data usage (2021) | Adjusted data usage (GB) (2022) | % that is in regions 2b+3 | Total region 2B+3 data usage (GB) | TPG customer base |
|-----------------------------|---------------------------|---------------------------------|---------------------------|-----------------------------------|-------------------|
| Region 1 (0-67% population) | | | | | |
| Region 2a (67-80%) | | | | | |
| Region 2b (80-96%) | | | | | |
| Region 3 (96%+) | | | | | |
| National average | | | | | |

Notes: GB per SIO for TPG customers.
 Assumes [redacted] % increase in data usage in 2022.
 Distribution of data usage in Region 3 is assumed to be the same as in Region 2b.
 * Assumes monthly cost of [redacted] per TPG customer, and [redacted] per GB for data usage in the Regional Coverage Zone.
 Source: TPG and based on my instructions.

- 3.30 The calculation in Table 4 implies that to offer its current customers the much higher coverage and quality enabled by the Proposed Transaction would cost TPG an additional cost of [redacted] per subscriber in addition to the fixed cost which does not vary with the number of subscribers. I assume TPG has incremental costs of serving an additional customer of around \$11.5 per month.²⁰ This additional cost is much smaller than customers' valuation of the additional quality implied by the premia of 38% and 62%²¹ in the prices of Optus and Telstra relative to TPG's prices. For example, I understand that TPG had an ARPU of \$31.60 per month in 2021.²² If consumers value TPG's services with the additional quality that TPG could provide under the Proposed Transaction by 48% more than TPG's current services then this would imply an average valuation for the additional quality of \$15.17.²³
- 3.31 In other words, for a cost of [redacted] per subscriber, TPG would be able to offer additional quality potentially valued at \$15.17 per subscriber.
- 3.32 An increase in the quality of a firm's product will shift the firm's demand curve up by customers' valuation of the quality improvement. On the other hand, an increase in a firm's marginal cost will shift the firm's supply curve up (i.e. it will need a higher price to supply any given quantity). As noted above, while I expect the value customers attach to TPG's quality to increase substantially under the Proposed Transaction (e.g. by \$15.17), I expect TPG's variable cost per subscriber to increase by only around [redacted].
- 3.33 Figure 1 illustrates that where the upward shift in the firm's demand curve (i.e. from D1 to D2) is greater than the upward shift in firm's supply curve, the firm's price will rise by less than the upward

²⁰ According to TPG's HY22 Financial Results Investor Presentation dated 19 August 2022 (page 6), TPG's ARPU was \$31.5 in 1H2021 and \$31.7 in H2021. According to TPG's 2021 Full-Year Results in FY2021, TPG's service revenue was \$4,389m and its cost of provision of telco services was \$1,595m and therefore, its margin was about 64% (= (\$4,389m - \$1,595m) / \$4,389m).

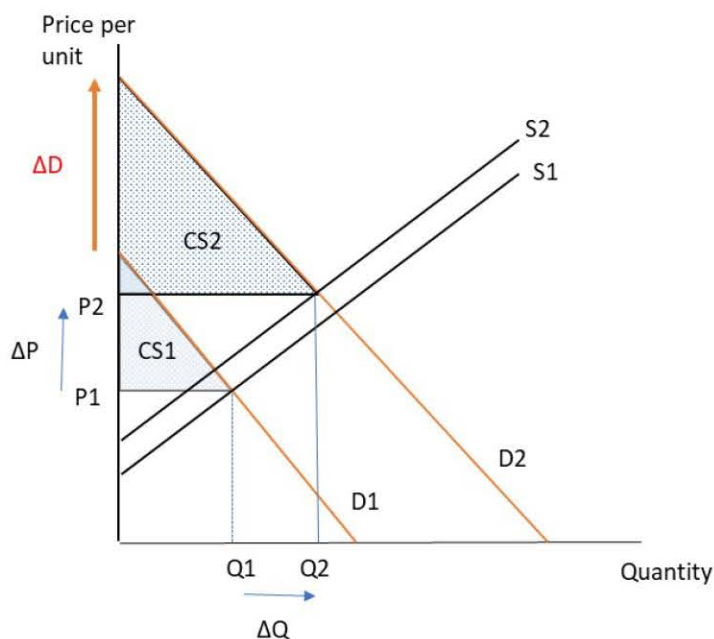
²¹ My First Report, Table 8.

²² Average ARPU for 2021 of \$31.6 calculated based on TPG's ARPU of \$31.5 in 1H2021 and \$31.7 in H2021 (TPG's HY22 Financial Results Investor Presentation dated 19 August 2022, page 6).

²³ The price premia and coverage for Optus and Telstra suggest that customers would value a network that could offer 98.8% coverage 48% more than TPG's current network. Applying this 48% to TPG's current ARPU suggests a value on additional quality of \$15.17.

shift in the demand curve.²⁴ In other words, the firm's quality-adjusted prices will fall. This increases overall consumer surplus (i.e. CS2 is greater than CS1) because prices do not rise as much as consumers' willingness-to-pay (i.e. equivalent to a fall in quality-adjusted prices) and because consumers buy a greater quantity. As noted in para. 3.6, I consider that this type of effect helps to explain the large fall in quality-adjusted mobile prices over time found by the ACCC.

Figure 1: A quality improvement with a relatively small change in marginal costs can be expected to increase consumer welfare



- 3.34 My calculation of the additional cost of per subscriber in Table 4 is based on the initial price per GB under the Proposed Transaction and TPG's current split of subscribers and usage by region. I consider different assumptions for future years later.
- 3.35 I note that I expect that TPG would wish to significantly reduce its quality-adjusted prices (and hence limit any increase in its prices) to attract additional customers from Telstra and Optus and thereby grow its scale.
- 3.36 In the SOPV Counterfactual, TPG would avoid the payments to Telstra. However, it would face:
- its own network variable costs to supply data in the targeted build area which I have estimated as [REDACTED] i.e. the average of the variable cost estimates of [REDACTED] to \$0.71 per GB noted above and noting that TPG's network costs in regional areas is likely to be above its national average estimated network costs;²⁵ and
 - a price per GB (which I am instructed would be [REDACTED] for data supplied using Optus' roaming services.²⁶
- 3.37 I am instructed that under a targeted build, TPG would increase its sites in the Regional Coverage Zone from around 750 sites currently to [REDACTED] sites.²⁷ This would still be less than [REDACTED]% of the 2,500

²⁴ This also assumes that TPG's supply curve is not highly inelastic which I consider to be reasonable given that TPG can supply additional volumes profitably around market prices given its access to spectrum and ability to install additional sites and deploy 5G on to more sites.

²⁵ See para. 3.19 to 3.23.

²⁶ My First Report 1.6.a.iii.

²⁷ Based on my instructions.

sites Optus has in the Regional Coverage Zone and the 3,700 sites Telstra has.²⁸ To estimate TPG's costs under the SOPV Counterfactual, I assume that 75% of its traffic in the Region 2b would be carried on its network and 25% would be supplied using Optus roaming, while 100% of TPG's traffic in Region 3 would be supplied using Optus roaming as TPG does not have any sites in this region.²⁹ This suggests that TPG would have [REDACTED] more cost per GB of traffic in the Region 2b and more cost per GB of traffic in Region 3 (again ignoring costs which do not differ between the Proposed Transaction and the SOPV Counterfactual).³⁰

3.38 In Table 5, I have used this average cost per GB in the Regional Coverage Zone to estimate TPG's additional monthly cost per customer in the SOPV Counterfactual. This calculation also ignores the savings from TPG not making payments to Telstra which I consider after the table.

Table 5: Estimated additional TPG cost per SIO under SOPV Counterfactual with current usage

| Customer location | Total region 2B+3 monthly data usage (GB) | TPG customer base | Additional monthly cost per customer in SOPV Counterfactual* |
|-----------------------------|-------------------------------------------|-------------------|--------------------------------------------------------------|
| Region 1 (0-67% population) | [REDACTED] | [REDACTED] | [REDACTED] |
| Region 2a (67-80%) | [REDACTED] | [REDACTED] | [REDACTED] |
| Region 2b (80-96%) | [REDACTED] | [REDACTED] | [REDACTED] |
| Region 3 (96%+) | [REDACTED] | [REDACTED] | [REDACTED] |
| National average | [REDACTED] | [REDACTED] | [REDACTED] |

Notes: GB per SIO for TPG customers
 Assumes [REDACTED] increase in data usage in 2022
 Distribution of data usage in Region 3 is assumed to be the same as in Region 2b.
 * Assumes [REDACTED] per GB for target build and [REDACTED] per GB charge for roaming and that traffic in Regional Coverage Zone and assumes that 25% of TPG customers' data consumption in Region 2b and 100% of TPG customers' data consumption in Region 3 would be on Optus roaming.

Source: TPG and based on my instructions.

3.39 Comparing Tables 4 and 5 suggests that TPG's monthly cost per subscriber would initially be slightly higher under the Proposed Transaction than under the SOPV Counterfactual. In particular, TPG's cost per subscriber would be [REDACTED] cents per month higher under the Proposed Transaction albeit that TPG would be offering 98.8% population coverage while I am instructed that its population coverage under the SOPV Counterfactual would be coverage up to [REDACTED].³¹

3.40 Tables 4 and 5, however, are based on the initial data charge under the Proposed Transaction, current data usage and TPG's current distribution of customers by region.

²⁸ SOPV, paras 2.1-2.3.

²⁹ The precise split will depend on the split of TPG's regional traffic between regional residents and visitors, where each type of customer uses the service and how traffic is divided between the networks of TPG and Optus. I expect that most of TPG's customers will continue to be in Regions 1 and 2a and lead to a significant share of traffic in the Regional Coverage Zone relating to visitors. This makes it difficult to estimate how such traffic might be distributed.

³⁰ Calculations are based on cost of data usage as presented in Table 3 and using average annual data usage of customers by region as given in para. 1.5a as weights. I have used the mid point between [REDACTED] and 0.71 in the calculations.

³¹ My First Report, para. 1.6.a.ii.

3.41 I understand that if data usage grows faster than ARPU (as has been the case), [REDACTED]
 [REDACTED]³² [REDACTED]
 [REDACTED]

3.42 As noted in my First Report, mobile data usage in Australia is forecast to continue to grow rapidly with Ericsson forecasting 28% annual growth for Oceania and South East Asia between 2020 and 2026.³³ Assuming 28% annual growth, data use in 2026 would be 2.7 times higher than data use in 2022. Table 6 shows TPG's the additional costs per subscriber in 2026 under the Proposed Transaction would be lower, i.e. [REDACTED] compared with [REDACTED] under the SOPV Counterfactual. Moreover, if data usage continues to grow after 2026 as seems likely, this would further increase TPG's costs under the SOPV Counterfactual relative to the Proposed Transaction.

Table 6: Forecast additional TPG cost per SIO for 2026 under Proposed Transaction and the SOPV Counterfactual

| Customer location | Forecast 2026 region 2B+3 monthly data usage (GB) | TPG customer base | Additional monthly cost per customer under Proposed Transaction | Additional monthly cost per customer in SOPV Counterfactual |
|-----------------------------|---------------------------------------------------|-------------------|-----------------------------------------------------------------|-------------------------------------------------------------|
| Region 1 (0-67% population) | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |
| Region 2a (67-80%) | | | | |
| Region 2b (80-96%) | | | | |
| Region 3 (96%+) | | | | |
| National average | | | | |

Notes: Assumptions are the same as in Tables 4 and 5 except I assume data use per customer in 2026 will be 2.7 times data use in 2022.
 Source: Underlying data from TPG and based on my instructions.

3.43 The national average per subscriber cost in Table 6 assumes a distribution of TPG's subscribers by region based on their current split. It can be seen that if TPG were to grow its share of customers in Regions 2b and 3 (in both the Proposed Transaction and the SOPV Counterfactual) then the national average under the SOPV Counterfactual would increase relative to the national average under the Proposed Transaction. This is because the estimated costs of serving customers in Regions 2b and 3 are much higher under the SOPV Counterfactual.

3.44 The high costs that TPG would incur in the SOPV Counterfactual for customers residing in Regions 2b and 3 suggests that TPG may instead seek limit taking customers in those regions. It is not clear whether TPG could refuse to take customers residing in Regions 2b and 3 or whether TPG might have to generally limit data use of all its customers (e.g. by throttling) when they are in Regions 2b and 3. Either action to limit the service offered by TPG could hold down TPG's costs per subscriber but would negatively impact the affected customers relative to the Proposed Transaction and would decrease the level of competition in these regions. In this regard, it is important that costs and prices are not considered independently of the quality of the service offered.

³² [REDACTED]

³³ Ericsson Mobility Report 2020, p.14.

Comparison with an Optus MORAN/MOCN

- 3.45 I have also been instructed to assume that it is possible that after three to five years of a roaming agreement, TPG may enter into a MORAN or MOCN arrangement with Optus. The terms of any such agreement seem highly uncertain. If it were structured similar to the Proposed Transaction, such an agreement may allow TPG to compete for customers based in the Regional Coverage Zone. However, I see no reason why the terms of such an agreement would result in lower costs to TPG than the Proposed Transaction.
- 3.46 Moreover, in the event that the ACCC prevents the Proposed Transaction, TPG's bargaining position with Optus would be weak. In that event, I would expect that the terms which TPG could negotiate with Optus for network-sharing would be materially worse for TPG – and Australian mobile users - than the Proposed Transaction.

Conclusion on likely effect on TPG's quality-adjusted prices

- 3.47 Based on the analysis set out in this section, I consider that the Proposed Transaction would:
- a. significantly reduce TPG's quality-adjusted prices;
 - b. would result in a significantly lower variable cost for TPG in providing data in the Regional Coverage Zone than under the SOPV Counterfactual;
 - c. would initially result in similar costs for TPG in acquiring additional subscribers as under the SOPV Counterfactual and would result in lower costs than under the SOPV Counterfactual as average data usage per subscriber grows; and
 - d. would be likely to result in lower costs for TPG than under a MOCN with Optus, particularly if TPG were to be able to offer broadly equivalent services and if the ACCC prevented the Proposed Transaction.
- 3.48 As I discuss in the next section, the Proposed Transaction would increase competitive pressure on Telstra's and Optus' prices and lead them to set lower prices. This could be expected to lead TPG to reduce its prices somewhat further in response or at least not raise them.
- 3.49 As noted in my First Report, I also consider that price-sensitive consumers would benefit as a result of: (a) downward market pressure on prices (which can be expected to lead to lower prices for offers targeting price-sensitive consumers); (b) TPG's lower cost to provide additional quality (leading to a lower increment in prices for price-sensitive consumers who nonetheless want or need higher coverage); and (c) increased capacity becoming available including for MVNOs and for fixed wireless services (which is likely to support increased competition and lower prices for such services).

LIKELY EFFECT ON TELSTRA'S AND OPTUS' PRICES

- 4.1 The ACCC's notes that the Proposed Transaction is likely to make TPG a stronger competitor to Optus and Telstra but that there could be an offsetting effect for Telstra from part of Telstra's cost of losing customers to TPG being compensated by TPG's wholesale payments.³⁴
- 4.2 In this section, I provide my views on the likely effects of the Proposed Transaction on Optus' and Telstra's prices. In short, I consider that:
- TPG's better coverage and quality under the Proposed Transaction will make customers more willing to switch to TPG and this would be expected to lead Optus and Telstra to reduce their prices;
 - TPG's lower quality-adjusted prices will lead to further downward pressure on the prices of Optus and Telstra; and
 - TPG's wholesale payments to Telstra will partly offset these downward effects but their impact can be expected to be relatively small.
- 4.3 I consider that the overall effect of the Proposed Transaction is likely to be significant reductions in the prices of both Optus and Telstra.

Impact of increased willingness of customers to switch to TPG

- 4.4 TPG's limited current coverage is less likely to make customers to switch from Optus and Telstra to TPG. A consumer survey conducted by TPG in May 2022 found:³⁵
- █ of all customers in Region 1 rising to █ in Regions 2b and 3 gave network coverage as the main reason for choosing their current brand;
 - █ of Telstra customers chose Telstra for its network coverage while comparatively few █ chose Telstra because it was considered value for money;
 - █ of Telstra customers in Region 1, █ in Region 2a and █ in Regions 2b and 3 (which I estimate implies a weighted national average of █³⁶) would only consider Telstra; and
 - █ of Optus customers would not consider TPG or Vodafone (with the range reflecting differences across regions).
- 4.5 I am instructed that █
█³⁷ This suggests

³⁴ SOPV, paras 5.37-5.38.

³⁵ TPG, Regional Network Research.

³⁶ The weighted national average is calculated using weights based on the number of Telstra's customers in each of the three regions using paras. 1.5e and 1.5f.

³⁷ Based on my instruction. See, para. 1.5d.

that customers are less willing to switch provider in more regional areas where coverage is particularly highly valued.

- 4.6 As the Proposed Transaction substantially improves TPG's coverage to above Optus' coverage and much closer to Telstra's coverage than the *status quo*, it would be expected to lead to some customers leaving Optus and Telstra if they maintain their current prices relative to TPG's. For example, it is likely that some of the [REDACTED] of Telstra customers who would currently only consider Telstra would be prepared to switch to TPG after it offers coverage much closer to Telstra's coverage than what Optus offers. Similarly, I expect that many of the [REDACTED] of Optus customers that would not currently consider TPG and its sub-brands (including Vodafone) would consider those brands when they offer better coverage than Optus offers.
- 4.7 By setting higher prices Optus and Telstra would lose even more customers to TPG. This makes the impact of the Proposed Transaction the opposite of the impact of a horizontal merger in which the cost to the merged entity of raising its prices is lower because it would no longer lose sales from customers switching to the product of the other merging party. With respect to customers with a high valuation for network coverage and quality, the effect of the Proposed Transaction can be considered similar to that of new entry.
- 4.8 Assuming that Optus and Telstra currently set their prices to maximise profits taking into account the margins earned on customers and the current preferences of customers, then the Proposed Transaction would put downward pressure on Optus' and Telstra's prices by increasing the willingness of their customers to leave Optus and Telstra for TPG.
- 4.9 I expect this effect to be significant. I will provide a simplified approach to illustrate the potential significance of this effect by reference to Telstra's prices. Telstra has an ARPU of around \$42.28 per month³⁸ and I assume incremental costs per subscriber of \$14.80 per month.³⁹ Assuming that Telstra's current prices are profit-maximising, this implies that Telstra's price elasticity of demand at current prices is -1.54.⁴⁰
- 4.10 As noted in para. 4.4c, currently [REDACTED] of Telstra's customers nationally will only consider Telstra with Telstra's better coverage being a main reason for customers choosing Telstra. Under the Proposed Transaction, TPG's coverage would bridge 42% of the current gap in coverage between Telstra and its closest competitor in terms of network coverage.⁴¹ If 42% of the customers who currently only consider Telstra would consider switching to TPG post-transaction then that would increase the number of customers willing to switch away from Telstra by [REDACTED].⁴²

³⁸ Telstra's ARPU is calculated using its ARPUs for post-paid and pre-paid customers and by using the relative shares of its post-paid and pre-paid customers. According to Telstra's Full Year Results FY22, Supporting material – Financial Tables, Telstra's ARPU was \$48.74 in for post-paid customers and \$25.22 for pre-paid customers. Based on my instruction (para. 1.5j) 73% of Telstra's mobile retail customers were post-paid customers and 27% of its mobile retail customers were pre-paid customers (excl. mobile broadband, IoT and satellite retail mobile customers).

³⁹ In particular, I have assumed Telstra has a gross margin of 65%. While Telstra reported a mobile EBITDA margin of 42.2% for FY22 (see Telstra Annual Report 2022, page 23), this will understate the gross margin on ARPU because it includes allocated fixed opex costs and includes hardware and interconnect revenue which tends to reduce the margin on the monthly ARPU.

⁴⁰ At the profit-maximising price, price minus marginal cost divided by price (also called the Lerner Index) will equal one divided by the absolute value of the firm specific elasticity of demand (see, for example, L. Kaplow and C. Shapiro, Antitrust, NBER Working Paper No. w12867, January 2007, p. 1080).

⁴¹ There is currently around a 1.2 percentage point coverage gap between Telstra and the operator with the next closest coverage (Optus) while, after the Proposed Transaction, the coverage gap between Telstra and its next closest competitor would reduce by 0.5 percentage points or by 42%.

⁴² [REDACTED] of Telstra customers will currently consider only Telstra. 42% of these customers would be equivalent to [REDACTED] of Telstra's total customers. [REDACTED] of Telstra customers nationally currently are willing to consider other operators. If an additional [REDACTED] percentage points of Telstra customers would consider switching post-transaction that would increase the total share of Telstra customers willing to switch by [REDACTED].

-
- 4.11 A [redacted] increase in the number of customers willing to switch can be treated as increasing Telstra's price elasticity of demand at current prices by [redacted], i.e. from -1.54 to [redacted]. For example, if a 1% price increase would previously have led to Telstra's customer numbers decreasing by 1.54% then I assume post-transaction that [redacted] of Telstra's customers would leave.
- 4.12 Assuming a constant marginal cost, I calculate that the effect of the increased price elasticity at current prices is that it would reduce Telstra's profit-maximising price level from \$42.28 per month by [redacted] to [redacted] per month.⁴³
- 4.13 Similar reasoning also suggests that Optus' profit-maximising prices will also fall significantly in response to a significant increase in the share of Optus' customers willing to switch from Optus. In this regard, the Proposed Transaction can be expected to make TPG a closer competitor to both Optus and Telstra.

Impact of TPG's lower quality-adjusted prices

- 4.14 The Proposed Transaction will significantly and quickly improve TPG's coverage and the quality of its services in regional areas. TPG's 4G population coverage would increase from around 95% to 98.8% and its services in the Regional Coverage Zone will be likely to be more reliable by being supplied using a denser network (i.e. of around 3700 sites in the Regional Coverage Zone compared with around [redacted] in the SOPV Counterfactual).⁴⁴
- 4.15 As discussed in the previous section, this can be expected to significantly increase the value of TPG's services to customers and by more than an increase in the price charged by TPG.
- 4.16 TPG's lower quality-adjusted prices can be expected to create further downward pressure on the prices of Optus and Telstra. In particular, they would likely accept somewhat lower margins so as to limit the number of customers switching to TPG given that they would lose the whole margin on customers who leave.

Impact of TPG's wholesale payments to Telstra

- 4.17 In the case of Telstra, the wholesale payments made by TPG would be expected to offset to some extent the downward pressure created by TPG being a stronger competitor and TPG and Optus offering lower quality-adjusted prices.
- 4.18 In the Regional Coverage Zone, it is clear that the net effect on Telstra's prices will be downward. This is because few customers currently subscribe to TPG in the Regional Coverage Zone (i.e. TPG has a [redacted] market share).⁴⁵ As such, the fact that Telstra would post-transaction face a significant risk of losing customers to TPG if it prices too high would lead Telstra to set lower prices even if the margin it loses on customers leaving is somewhat reduced by TPG's payments. Telstra's ARPU is \$48.29 per month, and I estimate its incremental cost per subscriber is \$14.80 per month (see para. 4.9). That implies Telstra earns a margin of \$27.48 on average on each customer it retains. In contrast, as shown in Table 4, Telstra would post-transaction recoup only around [redacted] from each customer in Regions 2b and 3 who joins TPG.

⁴³ If Telstra would change its price by $a\%$, then this would change the number of its customers by $a \cdot [redacted]$, as its price elasticity of demand is [redacted]. Telstra's new margin will be equal to the difference between its new price, i.e. $\$42.28 \cdot (1+a\%)$, and its incremental cost per subscriber, i.e. \$14.80. Therefore, Telstra's new profit will be equal to $(Q^{Telstra} \cdot (1 + [redacted] \cdot a\%)) \cdot (42.28 \cdot (1 + a\%) - 14.80)$, where $Q^{Telstra}$ is the total number of Telstra's current customers. $a\% = [redacted]$ maximizes Telstra's new profit.

⁴⁴ Telstra TPG MOCN - Authorisation Application (TPG Version).

⁴⁵ Telstra TPG MOCN - Authorisation Application (TPG Version), Table 7 notes.

- 4.19 In metro areas, Telstra does currently face the risk of customers switching to TPG. There will be two relevant effects of the Proposed Transaction:
- as explained above, the share of customers who are willing to switch can be expected to increase post-transaction; and
 - the loss to Telstra when a customer switches to TPG will be lower because of the per SIO charge paid by TPG for its customers nationally and the per GB charge it pays for data used in the Regional Coverage Zone.
- 4.20 To understand the overall impact on Telstra's national prices, I undertake a calculation based on national averages. As above, I estimate that the effect of TPG's improved quality would change the price elasticity of demand faced by Telstra at current prices from -1.54 to [REDACTED]. However, Telstra's profit will now be determined by the profit Telstra earns on its own customers and the payment TPG makes to Telstra.
- The profit Telstra earns on its own customers is, as before, the product of Telstra's number of customers and the difference between Telstra price and Telstra's incremental cost per subscriber (i.e. \$14.80 per month).
 - TPG's payment to Telstra will be the product of the number of TPG's customers and the average incremental cost per SIO payable to Telstra of [REDACTED] (see Table 4).
- 4.21 On this basis, I calculate that Telstra's profit-maximising price level would reduce by [REDACTED] from \$42.28 per month currently to [REDACTED] per month.⁴⁶
- 4.22 In short, taking into account both customers' increased willingness to switch to TPG and TPG's wholesale payments to Telstra, the net effect is still likely to be a significant reduction in Telstra's prices. The effect of the wholesale payments is relatively small as can be seen by comparing the profit-maximising price of [REDACTED] per month when only accounting for the effect of the Proposed Transaction on customers' willingness to switch with the profit-maximising price of [REDACTED] per month when also taking into account the effect of the wholesale payments.
- 4.23 While this analysis is highly simplified (e.g. given the diversity of different mobile plans in practice), I consider that it provides a reasonable indication of the relative magnitude of the effects.
- 4.24 The above analysis is conservative in ignoring the other likely effects of the Proposed Transaction increasing the downward pressure on Telstra's prices of TPG's likely lower quality-adjusted prices and Optus' lower prices.

Conclusion on likely effects on prices of Optus and Telstra

- 4.25 I conclude that the Proposed Transaction is likely to result in a significant reduction in the prices of Optus and Telstra driven by customers' likely increased willingness to switch to TPG when it can offer better coverage and by the need to compete with TPG's lower quality-adjusted prices. My

⁴⁶ As discussed in footnote 43, if Telstra would change its price by $a\%$, then this would change the number of its customers by a $(-\text{[REDACTED]}\%)$ and its new profit would be equal to $(Q^{Telstra} \cdot (1 + (-\text{[REDACTED]}) \cdot a\%)) \cdot (42.28 \cdot (1 + a\%) - 14.80)$, excluding the payments from TPG to Telstra. I assume that TPG will gain share of the customers who leave Telstra proportional to its retail share relative to Optus' and other MVNOs shares. According to ACCC's Communication Monitoring Report 2020-21, in 2021 TPG's retail share was 17%, while Telstra's share was 44%. I calculate the share of customers who will join TPG as 30% (=17%/56%). Therefore, including TPG's payments to Telstra, the maximization problem becomes $(Q^{Telstra} \cdot (1 + (-\text{[REDACTED]}) \cdot a\%)) \cdot (42.28 \cdot (1 + a\%) - 14.80) + (Q^{TPG} + 30\% \cdot Q^{Telstra} \cdot (\text{[REDACTED]} \cdot a\%)) \cdot \text{[REDACTED]}$, where Q^{TPG} is the total number of TPG's customers and $30\% \cdot Q^{Telstra} \cdot (\text{[REDACTED]} \cdot a\%)$ is the number of Telstra's customers that will join to TPG as a result of Telstra's price increase. $a\% = \text{[REDACTED]}$ solves Telstra's new maximization problem.

conclusion of a significant reduction in Optus' and Telstra's prices takes into account the relatively small offsetting effect of TPG's wholesale payments to Telstra.

LIKELY EFFECTS ON QUALITY AND INFRASTRUCTURE COMPETITION

- 5.1 The ACCC seeks views of the likely impact of the Proposed Transaction on longer term infrastructure-based competition including on Optus' and TPG's incentives to invest in regional areas and any consequential risks to long-term competition.
- 5.2 In this section, I:
- a. highlight what I consider to be a risk of the ACCC's framework for its competitive assessment of the Proposed Transaction of underestimating the likely major benefit for competition and end-customers of TPG being able to immediately and substantially increase its regional coverage;
 - b. assess the likely impact of the Proposed Transaction on Optus' incentive to invest and why I consider that Optus will continue to invest to improve its regional coverage because the cost of not investing in terms of lost customers would be greater;
 - c. assess whether there is a risk of longer term harm if Optus does not invest from a diminished threat of future network expansion by TPG or from TPG behaving myopically if its future negotiating position would be weaker.

The competitive assessment should focus on outcomes for end-users

- 5.3 The ACCC states that, in respect of the competitive effects of the Proposed Transaction, it is considering the likely effects on price-based competition and on infrastructure-based competition.⁴⁷
- 5.4 I consider that the ACCC's assessment framework risks a potential major gap: the large expected benefits to end-users and competition from TPG being able to offer much better regional coverage and quality for the 10 to 20 years of the Proposed Transaction.
- 5.5 As the ACCC's work across regulated industries testifies, access-based competition can be an important source of consumer benefits in addition to infrastructure-based competition.⁴⁸ The Proposed Transaction can be seen as involving Telstra facilitating a new form of access-based competition that has not previously been present in the Australian market context. This access-based competition will have benefits for downstream retail markets.
- 5.6 The Proposed Transaction should be judged ultimately on the outcomes for end-users. If there are benefits for end-users from regional infrastructure competition, these would be expected to arise particularly for customers in the Regional Coverage Zone. I first assess the likely outcomes for customers in the Regional Coverage Zone under the Proposed Transaction and then assess likely outcomes for customers in Regions 1 and 2a.

⁴⁷ SOPV, p.1.

⁴⁸ Similarly, competition between supermarkets can bring consumer benefits even if the supermarkets do not grow their own vegetables or raise their own animals.

Likely effects on customers in the Regional Coverage Zone

- 5.7 As set out in my first Expert Report, the direct impact of the transaction is to improve the quality of services offered by TPG to both retail and wholesale end users. The Proposed Transaction will:
- increase TPG's 4G coverage from 95% of the population currently to 98.8% as well as to improve TPG's service quality in the areas of the 17% Regional Coverage Zone where TPG has some (albeit patchy) coverage;⁴⁹
 - enable TPG and its MVNOs to offer 5G services in the 17% Regional Coverage Zone six months after Telstra has deployed to a site; and
 - enable TPG to offer access to the MOCN as a "fallback" option for its NBN fixed lines services in the MOCN area.⁵⁰
- 5.8 In addition, the quality of service offered by Telstra in the Regional Coverage Area will also improve due to the addition of up to 169 TPG sites and by utilising the TPG spectrum in order to increase the capacity (and so ability to provide higher speeds) to end users by up to 39%.⁵¹
- 5.9 With competitive coverage, TPG will become a credible alternative for customers living in the Regional Coverage Zone. Consumers can be expected to benefit from access to the additional product variety TPG brings including in relation to products bundles, price levels and structure, customer service and brand preferences. The Proposed Transaction would provide regional customers with a choice of 5G providers much sooner than in the SOPV Counterfactual.⁵²
- 5.10 As noted in the previous section, the Proposed Transaction is likely to result in TPG's quality-adjusted prices falling and greater competitive pressure on the offers of Optus and Telstra.
- 5.11 The ACCC suggests that there might be benefits if TPG instead relied on its own network:
- "by maintaining ownership of all of its active infrastructure, TPG would have a greater ability to innovate and independently differentiate its service offerings in the provision of both retail and wholesale mobile services."*⁵³
- 5.12 This seems divorced from the reality of TPG's network. TPG has a fraction of the regional sites of Optus and Telstra resulting in limited and patchy coverage. It is a network that almost all regional consumers avoid.⁵⁴
- 5.13 The ACCC appears to accept that a counterfactual of a full scale build by TPG in the Regional Coverage Zone is unrealistic.⁵⁵ I am instructed that, absent the Proposed Transaction, a TPG targeted build would increase TPG's sites in the Regional Coverage Zone by ■■■ to around ■■■. This would be less than ■■■ of Optus' sites and ■■■■■ of Telstra's sites in the area. In all likelihood, TPG's network would remain a network unused by regional customers.
- 5.14 Mobile technologies, moreover, are standardised (e.g., 4G, 5G are global standards). To the extent that network differentiation could bring benefits to end-users it is particularly in terms of coverage, quality and price. However, TPG can offer better coverage and quality through the Proposed

⁴⁹ TPG has around one-fifth of the sites of Telstra and one-third of the sites of Optus in the 17% Regional Coverage Zone (Telstra TPG MOCN – Authorisation Application, para. 48).

⁵⁰ Telstra TPG MOCN – Authorisation Application, para. 253.

⁵¹ My First Report, para. 5.12.

⁵² See my First Report, para. 5.29.

⁵³ SOPV, para. 5.15.

⁵⁴ TPG's share of subscribers in the Regional Coverage Zone is ■■■ (Telstra TPG MOCN – Authorisation Application, p. 60).

⁵⁵ SOPV, para. 5.12.

Transaction than in the SOPV Counterfactual and, for the reasons set out in the previous section, TPG's quality-adjusted prices would be lower. Customers in the Regional Coverage Area would effectively gain a choice between three operators for the first time with competition driving down market prices. This choice, in turn, will have been driven by a new type of access-based offer from Telstra which delivers benefits to TPG (and ultimately consumers) that greatly exceed the benefits provided by the existing roaming deal between TPG and Optus.

- 5.15 As set out in my First Report⁵⁶, compared with the SOPV Counterfactual, the Proposed Transaction would:
- a. enable TPG to offer greater coverage (i.e. 98.8% versus [REDACTED] population coverage) and thus make TPG a better alternative to customers living in the Regional Coverage Zone;
 - b. greater scope for service differentiation as the parties would retain their own core networks whereas roaming would involve TPG essentially reselling Optus' services;
 - c. be likely to enable TPG to offer 5G earlier; and
 - d. offer greater gains in capacity and quality from the parties' combination of spectrum and sites given that Optus does not appear to have the same capacity issues as Telstra and that I understand [REDACTED].
- 5.16 As noted in Section 3, high roaming charges could lead to TPG limiting access to Optus' roaming services by customers living in regional areas. While the ACCC expects (para. 5.22) that high roaming charges would encourage TPG to invest more, the reality for regional customers is likely to be a continuation of the problems found by the 2021 Regional Telecommunications Review of limited choice and competition and with Telstra's network prone to congestion.⁵⁷

Likely effects on customers in Regions 1 and 2a

- 5.17 Although the Proposed Transaction would not directly affect TPG's coverage in Regions 1 and 2a, it can be expected to increase competition for customers in these regions.
- 5.18 [REDACTED] of Telstra customers and [REDACTED] of Optus customers living in Regions 1 and 2a do not currently consider choosing a mobile service from TPG/Vodafone.⁵⁸ TPG research on the reasons why customers leave its network finds that [REDACTED]⁵⁹.
- 5.19 The Proposed Transaction would give TPG coverage better than Optus' current coverage and help bridge the gap with Telstra's coverage. This can be expected to increase customers' willingness to switch.
- a. As set out in Section 4, this is likely to lead to Optus and Telstra reducing their national prices.
 - b. By making TPG a closer competitor to the others, it could also increase TPG's expected return from undertaking additional quality-enhancing investments. In particular, such investment would be more likely to attract additional customers once the barrier to switching of TPG's poor regional coverage is overcome.

⁵⁶ My First Report, para. 5.21-5.24 and 5.30-5.31.

⁵⁷ My First Report, para. 3.40.

⁵⁸ TPG, Regional Network Research.

⁵⁹ TPG's Port-Out Survey Insight, April 2022.

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- c. Optus and Telstra would also come under increased competitive pressure to increase their quality to help limit the loss of customers to TPG and the loss of their current price premia. This would be consistent with the finding of Aghion et al (2005) that, the closer are firms in an industry, the higher the level of innovation activity: “... more neck-and-neck industries show a higher level of innovation activity for any level of product market competition”.⁶⁰ This is also consistent with the ACCC’s view that “competition leads to lower prices, better quality products and services, and more choice for consumers.”⁶¹

Impact on long-term investment incentives

5.20 The ACCC notes two concerns in relation to longer term competition:

- a. Optus’ submission that it would cease or decelerate its regional investment if it faces stronger competitive offers from Telstra and TPG and that, conversely, Optus’ reduced competitive pressure on Telstra would lead Telstra to invest less⁶²; and
- b. the threat of future network expansion by TPG would be diminished and TPG could myopically leave itself in a weaker negotiating position to renew contract terms in the future.

5.21 I address these concerns next.

Optus’ likely future investment

5.22 Optus submits that its rational strategy in response to the Proposed Transaction “is to cease or decelerate its regional investment, which may include its 5G network rollout”.⁶³

5.23 However, Optus has been investing strongly to increase its 4G geographic coverage in regional areas including increasing its coverage in outer regional Australia by 27.8% between 2018 and 2021 despite (or because of) its coverage being less than Telstra’s.⁶⁴

5.24 For Optus’ submission to be likely would require the Proposed Transaction to fundamentally change the economics of investment for Optus.

5.25 To consider whether this is likely, I provide my assessment of the likely costs to Optus of investing versus the cost to Optus of not investing of losing customers who value good coverage and quality.

- a. I am instructed that Optus has [REDACTED] customers in the Regional Coverage Zone.⁶⁵ Optus is also likely to attract many metro customers because it offers reasonable coverage in regional areas. These customers would be at risk if Optus significantly reduced its regional investment.

5.26 With regard to the costs of additional investment by Optus, I note Optus already has 2,500 sites in the Regional Coverage Zone.⁶⁶ Optus also has large amounts of spectrum relative to its subscriber

⁶⁰ Aghion, P. et al (2005), “Competition and innovation: an inverted U Relationship”, *The Quarterly Journal of Economics*, Vol. 120, No.2, p. 719.

⁶¹ <https://www.accc.gov.au/business/competition>

⁶² SOPV, paras. 5.53-5.55.

⁶³ SOPV, para. 5.54.

⁶⁴ ACCC Mobile Infrastructure Report, Table 3.2.

⁶⁵ By contrast, TPG, with its much weaker coverage had just [REDACTED] customers in the Regional Coverage Zone.

⁶⁶ SOPV, para. 2.3.

base in regional areas which supports its ability to offer high quality services and increases the amount of capacity provided by investment in additional sites.⁶⁷

5.27 I have estimated the costs to Optus of upgrading its existing sites in the Regional Coverage Zone to 5G. I am instructed that Optus' capex costs of upgrading an existing site is around [REDACTED] per site. Table 7 shows the implied costs for Optus to upgrade different numbers of sites to 5G.⁶⁸

Table 7: Cost of upgrading Optus Regional Sites to 5G

| Number of sites to upgrade to 5G | Total upgrade capex cost \$m |
|----------------------------------|------------------------------|
| 1000 | [REDACTED] |
| 1500 | [REDACTED] |
| 2000 | [REDACTED] |
| 2500 | [REDACTED] |

Notes: Based on cost of [REDACTED] of upgrading an existing site.
Source: Based on my instructions and calculations.

5.28 If Optus were to upgrade its 2,500 sites in the Regional Coverage Zone to 5G, it would cost approximately [REDACTED] in capex. This is less than its annual capital expenditure of approximately \$1.5 billion on its mobile network.⁶⁹ Such capex might have an effective economic life of around 10 years on average.⁷⁰

5.29 In practice, a lower level of 5G coverage may be needed for Optus to provide reasonably competitive coverage. Telstra's announced plan is to provide 95% 5G population coverage by 2025.⁷¹ TPG currently achieves 95% 4G population coverage and has only around 750 sites in the Regional Coverage Zone. If Optus were to upgraded 1,000 sites in the Regional Coverage Zone it could exceed Telstra's 2025 target at a cost of [REDACTED], or just [REDACTED] of Optus' annual capital expenditure.

5.30 Next, I consider the costs for Optus if it were not to invest in its regional network. The consequence would be that Optus' regional service quality would gradually deteriorate relative to that of Telstra and TPG under the Proposed Transaction. The history of the Australian mobile industry shows that deteriorating (relative) quality can be costly.

- a. Telstra's delayed launch of 3G services in Australia led to its market share declining from 52% in 2005 to 37% in 2010.⁷² By contrast, Telstra's early launch of 4G led to its market share increasing from 37% to 45% by 2015.⁷³
- b. VHA's inadequate network investment during the period 2010 to 2012 led to serious degradation in customer experience with call drop-outs, no signal and slow speeds. VHA ceased to be an

⁶⁷ Telstra TPG Authorisation Application, Table 13.

⁶⁸ See, para. 1.5k.

⁶⁹ [Optus Submission](#), June 2022, para 1.20.

⁷⁰ An earlier Ofcom document suggests site acquisition, preparation and leases has an effective economic life of 18 years while cell equipment has an effective life of 8 years (see Ofcom, [Wholesale mobile voice call termination](#), 15 March 2011, Table A6.11).

⁷¹ See, [Breaking upload speed records on 5G](#), By Nikos Katinakis, dated December 17, 2021. <https://exchange.telstra.com.au/telstra-5g-speed-record/>, accessed on 28 October 2022.

⁷² As cited in [Optus Submission](#), June 2022, para 3.55.

⁷³ As cited in [Optus Submission](#), June 2022, para 3.57.

effective competitor with its market share dropping from 27% to 18% between June 2010 and June 2014⁷⁴ and resulting in long-lasting harm to its reputation.

- 5.31 Optus currently has ██████ customers who live in the Regional Coverage Zone. As a result of the Proposed Transaction, I am instructed that Optus would have a somewhat lower market share assuming it invests to maintain reasonably competitive regional coverage. I am instructed that, in that case, Optus' market share would decline from █████% in Region 2b and █████% in Region 3 to █████% and █████% respectively in 2031.⁷⁵ I also assume 1.3% annual population growth across all regions. The effect of these assumptions is that Optus' absolute customer numbers in the Regional Coverage Zone would still grow gradually if Optus were to invest to maintain reasonably competitive regional coverage.
- 5.32 I understand that Optus' current ARPU per user is \$█████ per month, or \$█████ per year.⁷⁶ Assuming a gross margin of 65% implies a \$█████ gross margin per customer. As noted in Section 4, I expect that the Proposed Transaction would lead both Optus and Telstra to reduce their prices. I assume that Optus would reduce its prices and hence ARPU by 5% under the Proposed Transaction.
- 5.33 I assume that if Optus does not invest sufficiently to maintain reasonably competitive regional coverage, it would gradually lose its customers in the Regional Coverage Zone over the period to 2031. On this basis, I estimate that Optus would risk around \$█████ of profit (in present value terms with an assumed real cost of capital of 2.5%⁷⁷) over a ten year period.
- 5.34 Regional coverage, moreover, is valued by customers located in other regions. In my First Report, I presented evidence that the main reason for customers leaving TPG was due to coverage issues, and that, for most of these customers, the most frequent issue cited was coverage when travelling around Australia.⁷⁸
- 5.35 TPG's Regional Network Research finds that ██████ of Optus' existing metropolitan base (i.e. customers in Regions 1 and 2a) cite regional coverage as the *main* reason to choose Optus.⁷⁹ The proportion of Optus' metropolitan customers that value regional coverage would likely be significantly greater, particularly given that Optus competes fiercely on the basis of the geographic coverage it is able to offer. I assume any metropolitan customer of Optus that values coverage would be at risk if Optus fails to invest in its network coverage. However, for the purposes of providing a cost-benefits analysis, I have taken a highly conservative approach by focusing on the █████% of metropolitan customers that cite regional coverage as the main reason to choose Optus. Given the conservativeness of this, it will significantly understate the cost to Optus of failing to invest in its network coverage.
- 5.36 Using ██████ of customers in Region 1 and 2a as the basis for those customers at risk, this would place a further ██████ million of Optus' gross profit (in present value terms) at risk over a ten year

⁷⁴ ACCC Telecommunications Report 2013-14, Figure 2.9.

⁷⁵ See, para. 1.5i.

⁷⁶ See, para. 1.5i.

⁷⁷ WACC from ACCC, Public inquiry on the access determination for the Domestic Mobile Terminating Access Service – Final Report (2020), p7.

⁷⁸ My First Expert Report, Figures 7 and 8, page 17-18.

⁷⁹ According to TPG's Regional Network Research, █████% of Optus' existing customers in Region 1 and █████% of its existing customers in Region 2a cite regional coverage as the main reason to choose Optus. Using the relative shares of Optus' customers in Region 1 and Region 2a as weights, about █████% of Optus customers in Region 1 and 2a cites regional coverage as the main reason to choose Optus.

period.⁸⁰ Combined with Optus' regional customers, a total of [REDACTED] billion of gross profit (in present value terms) would be at risk over a ten year period (see Table 8).

5.37 Given one-off costs of upgrading part or all of its network in the Regional Coverage Zone to 5G (of [REDACTED]) compared with a potential cost of not investing of close to [REDACTED], I consider that Optus will continue to upgrade its network under the Proposed Transaction.

5.38 The ACCC notes material indicating that Optus and Telstra are likely to be each other's closest competitors with respect to regional network coverage.⁸¹ I consider that under the Proposed Transaction, this competition will continue and, moreover, the competition will be increased because Optus and Telstra would now also face the need to compete with the much better quality offered by TPG. Baker notes that "As a general rule, competition does not just lead firms to produce more and charge less, it encourages them to innovate as well. Competition supplies a powerful motive for innovation."⁸²

Table 8: Cost of not investing for Optus

| Year | Number of Optus' SIOs under MOCN | Number of lost SIOs without investment | Profit at risk (in \$m) |
|-----------|----------------------------------|----------------------------------------|-------------------------|
| 2021 | [REDACTED] | [REDACTED] | [REDACTED] |
| 2022 | [REDACTED] | [REDACTED] | [REDACTED] |
| 2023 | [REDACTED] | [REDACTED] | [REDACTED] |
| 2024 | [REDACTED] | [REDACTED] | [REDACTED] |
| 2025 | [REDACTED] | [REDACTED] | [REDACTED] |
| 2026 | [REDACTED] | [REDACTED] | [REDACTED] |
| 2027 | [REDACTED] | [REDACTED] | [REDACTED] |
| 2028 | [REDACTED] | [REDACTED] | [REDACTED] |
| 2029 | [REDACTED] | [REDACTED] | [REDACTED] |
| 2030 | [REDACTED] | [REDACTED] | [REDACTED] |
| 2031 | [REDACTED] | [REDACTED] | [REDACTED] |
| PV | [REDACTED] | [REDACTED] | [REDACTED] |

Notes: The number of Optus' customers in 2021 and 2031 are based on my instructions and include the expected impact of the Proposed Transaction on Optus' market share. I assumed that the number of Optus' customers will increase linearly over time. I assume that as a result of not investing to the regional network, Optus will gradually lose all of its regional customers and [REDACTED]% of its metropolitan customers (that it would otherwise have had in 2031). NPV is calculated using a real cost of capital of 2.5%.

Source: The number of Optus' customers in 2021 and 2031 and share of Optus' regional and metropolitan customers are based on my instructions. The real cost of capital is from [ACCC, Public inquiry on the access determination for the Domestic Mobile Terminating Access Service](#), p7.

Comparison with SOPV Counterfactual

5.39 Under the SOPV Counterfactual, Optus would receive wholesale payments from TPG. These payments would tend to improve the economic return for regional investment by Optus.

⁸⁰ I assume 1.3% population growth and assume that Optus will lose [REDACTED]% of its Regions 1 and 2a customers gradually until 2031.

⁸¹ SOPV, para. 5.51

⁸² Baker, Jonathan, "Beyond Schumpeter vs Arrow: How Antitrust Fosters Innovation" Antitrust Law Journal No 3, 2007, p. 587.

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- 5.40 My analysis above, however, shows that Optus can be expected to have a strong incentive to invest further in its regional network to protect its base of customers for whom regional coverage is important. Indeed, this incentive may diminish in the SOPV Counterfactual if fewer customers would be willing to switch to TPG.
- a. I am instructed that TPG's population coverage under an Optus roaming agreement would be up to [REDACTED], i.e. below Optus' current coverage and below TPG's coverage under the Proposed Transaction.⁸³
 - b. As noted in para. 3.44, TPG may not even seek customers living in the Regional Coverage Zone if it has to pay high roaming charges.
- 5.41 It would be necessary to analyse the relative magnitude of these effects to know whether Optus would have a greater incentive to invest under the Proposed Transaction or under the SOPV Counterfactual. I expect that Optus would continue to invest to maintain and upgrade its regional network in either case.
- 5.42 While the Proposed Transaction would negatively impact Optus financially compared with the SOPV Counterfactual, its impact is not a zero sum game. The Proposed Transaction will raise the average quality of mobile services supplied. The relevant question from a regulatory viewpoint is not whether the Proposed Transaction benefits all competitors, but whether consumers are likely to be better off relative to the SOPV Counterfactual. Optus is well-positioned to remain an effective competitor. As noted in my First Report (Table 4), there are many examples of international MOCN agreements including with much more extensive population coverage than the Proposed Transaction and these agreements have not undermined effective competition. I expect Optus will respond by cutting prices and by investing further in quality. In doing so, it will bring benefit to consumers. This is one of the many reasons I expect customer benefits to be higher under the Proposed Transaction than under the SOPV Counterfactual (as I have discussed further in Sections 3 and 4 and in paragraphs 5.15 and 5.16,

TPG's longer term competitive impact

- 5.43 The ACCC notes (para. 5.47) concerns that:
- a. the threat of TPG's future network expansion will diminish with the decommissioning of its sites under the Regional Coverage Zone; and
 - b. the TPG will be in a weaker future position to negotiate contract terms with Telstra.
- 5.44 I am not aware of any evidence suggesting that TPG offers much of a threat of future network expansion. As noted in my First Report (para. 5.36), TPG has invested little in regional areas over recent years, international evidence suggests that it is unlikely to be economic to have three networks in large, sparsely-populated areas and there would be high risks to TPG investing when regional customers already have contracts with Telstra and Optus.
- 5.45 As explained earlier in this section, I consider that TPG offering much higher coverage immediately and for the 10 to 20 years of the Proposed Transaction would create competitive pressure for Telstra and Optus to invest further. It would be perverse to forgo this competitive benefit for a highly uncertain and speculative possible benefit in the distant future.
- 5.46 I also consider that the second concern is unfounded. TPG's current main bargaining position with Telstra is the potential for TPG to instead reach an agreement with Optus (and Telstra to lose the

⁸³ My First Report, para. 1.6.a.ii.

opportunity to address its congestion issues with pooled spectrum). I have seen no evidence that Telstra is instead concerned about TPG rolling out its own network. As noted above, the evidence suggests this is highly unlikely. Further, to rollout out a network across the Regional Coverage Zone to seek to match Optus or Telstra's network would take many years. Telstra would be unlikely to agree to the Proposed Transaction and the loss of its competitive advantage if it thought TPG's alternative was to seek to expand its own network.

- 5.47 Under the Proposed Transaction, I expect that TPG would grow its regional customer base and its number of customers nationally using services in the Regional Coverage Zone. Subject to having sufficient capacity, this should make TPG an attractive potential partner for each of Telstra and Optus when TPG considers whether to renew the agreement. I expect such negotiations would take place in advance to give the parties sufficient time to plan the development of their networks.
- 5.48 If TPG secures a large regional customer base, it is also likely to reduce the risk and improve the economics of a future expansion of its own network.
- 5.49 As such, I think there are reasons to consider that TPG's future negotiating position will be as good, if not better, than its current negotiating position. In contrast, if the Proposed Transaction does not proceed (because it is not authorised), I think TPG's negotiating position with Optus would be diminished.
- 5.50 Finally, in considering possible effects 10 or 20 years into the future, it is important to recognise both the high degree of uncertainty over whether such effects would eventuate and the potential for policy interventions to resolve them in advance. For example, while TPG would decommission some of its regional sites under the Proposed Transaction (and potentially under a sharing arrangement with Optus), all of TPG's sites in the 17% Regional Coverage Zone are located on third party towers (or poles and rooftops) and regional towers are now largely operated by independent tower operators with a strong incentive to supply access to TPG, and low earth orbit satellite technology may present an alternative means for TPG to provide mobile connectivity to customers in regional Australia. Australia also provides for regulated access to towers. While such access would not provide the same benefits as combining the parties' spectrum and regional sites as under the Proposed Transaction, it could readily leave TPG in no worse position than it is with its current, relatively small number of regional sites.⁸⁴ While future technological change is difficult to predict over such a long period, it can be expected that mobile operators will seek to supply services using the means that can deliver best value at lowest cost (with some of the possibilities being to network share or rent capacity from other mobile operators or from satellite operators).

Conclusion on likely quality and investment effects

- 5.51 In summary, I consider that the Proposed Transaction is likely to bring substantial benefits to competition and end-users through TPG being able to offer much greater coverage than currently. I consider that Optus will continue to invest given the large cost of not investing or losing its base of customers for whom regional coverage is important. Moreover, Optus is well-placed to remain an effective competitor and to respond to the Proposed Transaction by cutting prices and investing in quality, driving additional consumer benefits. I consider that little weight can be attached to the loss of TPG's threat of future network expansion (there is no evidence that the threat amounts to much). I consider that TPG is likely to be in at least as strong a bargaining position at the time of negotiating any future sharing arrangement given that both Telstra and Optus can be expected to prefer to have TPG join them than join the other.

⁸⁴ ACCC Mobile Infrastructure Report, Table 3.2.

Declaration

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



Signature of Dr Jorge Padilla

2 November 2022

A APPENDIX A: EXHIBITS TO DR PADILLA'S EXPERT REPORT

A.1 I attached the following exhibits:

- Exhibit A – Copy of Dr Padilla's further letter of instructions dated 1 November 2022;
- Exhibit B – Documents provided to Dr Padilla;
- Exhibit C – Other documents relied upon; and

**Exhibit A - Copy of Dr Jorge Padilla's letter of engagement dated 1
November 2022**

1 November 2022

Dr Jorge Padilla
Compass Lexecon Europe
9th Floor, Paseo de la Castellana 7
Madrid, 28046, Spain

Partner
Jodi Gray [REDACTED]
Email: [REDACTED]

Contact
Patrick Keane [REDACTED]
Email: [REDACTED]

Confidential

Dear Dr Padilla

Further Letter of Instructions – TPG / Telstra MOCN Arrangement

We refer to our engagement letter dated 26 April 2022 (**Engagement Letter**) and letter regarding further materials dated 18 July 2022 (**Letter of Instruction**). The defined terms and terms of engagement set out in those letters apply in this letter.

1 Background

- 1.1 An overview of the Proposed Transaction and the Application are set out in the Engagement Letter.
- 1.2 On 26 July 2022, you provided us with a written expert report (**First Report**) on certain aspects of the Proposed Transaction for the purposes of us providing TPG with legal advice on the application of section 50 of the CCA to the Proposed Transaction. The First Report was subsequently filed with the ACCC.
- 1.3 On 30 September 2022, the ACCC published its Statement of Preliminary Views (**SOPV**) in relation to its assessment of the Application. The SOPV identifies the ACCC's preliminary views in relation to the Proposed Transaction, including in relation to:
 - the appropriate timeframe over which the ACCC should assess the effects of the Proposed Transaction;
 - the competitive effects of the Proposed Transaction on price-based competition and infrastructure-based competition; and
 - additional considerations the ACCC presently considers relevant to its assessment as to whether the Proposed Transaction is likely to result in a substantial lessening of competition, and the public benefits and detriments to which it is likely to give rise.

2 Instructions

2.1 You are instructed to provide a further independent expert report on:

- whether you continue to hold the view set out in your First Report that the Proposed Transaction can be expected to increase competition to the overall benefit of mobile users; and
- your expert opinion on the views presented in the SOPV in relation to potential effects of the Proposed Transaction on the prices of TPG, Telstra and Optus and on infrastructure competition.

2.2 Materials and assumptions

2.3 In preparing the Further Report, we request that you have regard to:

- the SOPV;
- the assumptions set out in Annexure A to the Engagement letter and Annexure A to the Letter of Instruction;
- materials we provided to you in connection with your First Report;
- the confidential documents listed in Annexure A to this letter; and
- any further additional materials that we provide to you for the purposes of the Further Report.

2.4 In accordance with the Code, any documents referred to in your Further Report which have been provided to you in the course of this engagement must be listed as a schedule to your Further Report. Any other information provided to you for the purposes of preparing your Further Report should be appropriately referenced in your report.

2.5 In addition, you are instructed to make the following assumptions:

- The average annual data usage of post-paid customer in each region by customer region in 2021 is as set out in the below table.

| Customer region | Region 1 (in GB) | Region 2a (in GB) | Region 2b (in GB) | Region 3 (in GB) | Unknown (in GB) | Total (in GB) |
|-----------------|---------------------|----------------------|----------------------|---------------------|--------------------|------------------|
| Region 1 | | | | | | |
| Region 2a | | | | | | |
| Region 2b | | | | | | |
| Region 3 | | | | | | |
| Unknown | | | | | | |
| National | | | | | | |

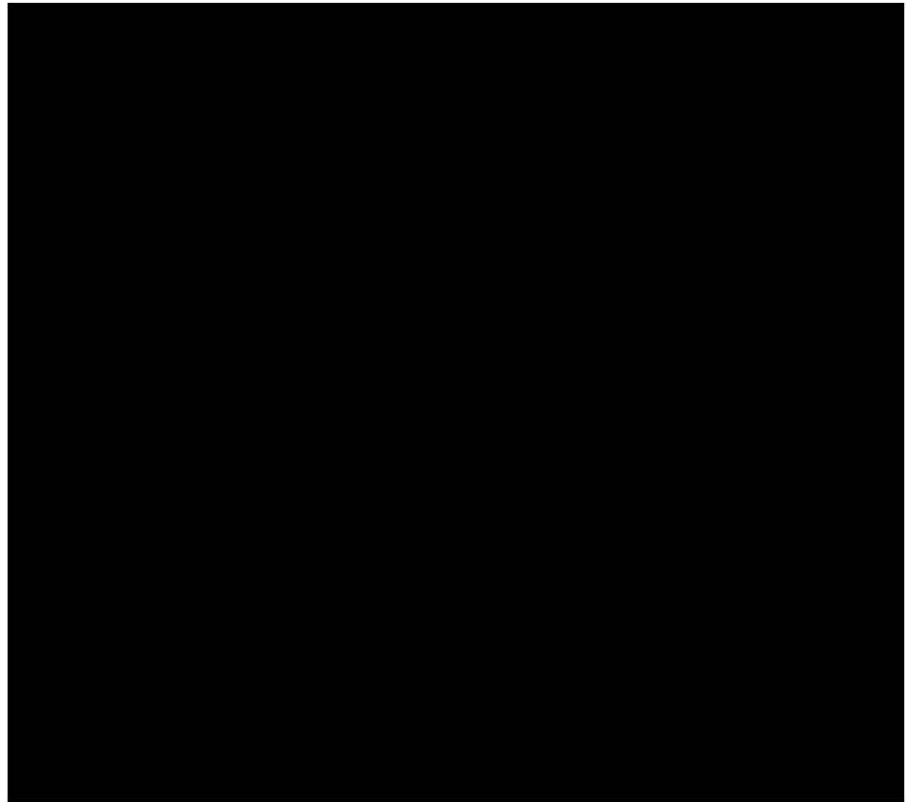
Notes: (i) Region 1 encompasses 0-67% of the population (i.e. approximately ██████ people) and consists of capital cities and major metropolitan areas; (ii) Region 2a encompasses 67-80% of the population (i.e. approximately ██████ people) and consists of larger regional centres such as Cairns and Ballarat and the metro outskirts; (iii) Region 2b encompasses 80-96% of the population (i.e. approximately ██████ people) and consists of regional towns and areas such as Dubbo and Mildura; and (iv) Region 3 encompasses 96%+ of the population (i.e. approximately ██████ people) and consists of remote Australia and inland outback areas.

- (b) The total annual data usage of customers from all regions will increase by █████ in 2022.
- (c) In 2022, consumers' data usage in Regions 2b (80-96%) and Region 3 (96%+) relative to the other regions will be █████ in 2021 for all customer regions, except customers in Region 3 are expected to use █████ data in Region 2b and 3 with increased coverage. Data usage of customers from Region 3 in Regions 2b and 3 relative to other regions will be █████ the relative usage of customers from Region 2b in these regions.
- (d) The churn rate of Telstra's post-paid customers is █████% in the 17% Regional Coverage Zone, while it is █████% in Region 1 and 2a.
- (e) The number of MNOs' customers in 2021 and the number expected in 2031 under the ACCC's preliminary view of a counterfactual of a TPG targeted build together with TPG relying on Optus' roaming services (**SOPV Counterfactual**) and under the Proposed Transaction are as set out in the table below:

| Customers | 2021 (000's) | 2031 under SOPV Counterfactual (000's) | 2031 under Proposed Transaction (000's) |
|----------------------------|-----------------|-------------------------------------------------|--------------------------------------------------|
| Region 1 | [REDACTED] | | |
| Telstra | | | |
| Optus | | | |
| TPG | | | |
| Regions 2a + 2b + 3 | | | |
| Telstra | | | |
| Optus | | | |
| TPG | | | |
| Combined | | | |
| Telstra | | | |
| Optus | | | |
| TPG | | | |

- (f) TPG's variable cost of data in 2021/22 was █████ per GB across all its network. In addition, TPG's cost of access in 2021/22 was █████ per SIO per month. Combined, these costs are equivalent to a blended full cost per GB of █████.

- (g) Telstra estimates its costs per site to vary between regions as follows:



- (h) In 2021 MNOs had [REDACTED] total customers in Region 2b and [REDACTED] total customers in Region 3 and their shares of supply in each region were:
- (i) in Region 2b Telstra had [REDACTED], Optus [REDACTED], and TPG [REDACTED]; and
 - (ii) in Region 3 Telstra had [REDACTED], Optus [REDACTED], and TPG [REDACTED].
- (i) In 2031, Optus' market shares under the Proposed Transaction are expected to be [REDACTED] in Region 2b and [REDACTED] in Region 3.
- (j) In 2022, Telstra had [REDACTED] post-paid retail mobile customers and [REDACTED] pre-paid retail mobile customers
- (k) Optus' cost of upgrading an existing site for 5G technology is [REDACTED]
- (l) Optus' mobile customers had an ARPU in 2021 of [REDACTED] per month.

3 Conditions of engagement

3.1 The hourly rates, conditions of engagement and confidentiality terms outlined in sections three and four of the Engagement Letter apply to this engagement.

3.2 You provided, and we accept, a fee estimate of [REDACTED] for the production of the Further Report on the basis of the hourly rates extracted in the Engagement Letter. We understand that your fees are subject to periodic adjustment. However, you agree to provide regular updates in relation to your fees and that you will not exceed your fee estimate without our prior approval.

1 November 2022

Compass Lexicon Europe

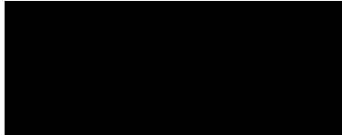
Further Letter of Instructions – TPG / Telstra MOCN Arrangement

**CORRS
CHAMBERS
WESTGARTH**

Please don't hesitate to contact us if you have any questions

Yours faithfully

Corrs Chambers Westgarth



Jodi Gray

Partner

Annexure A: Confidential documents

| No. | Document | Author | Date |
|-----|----------|--------|------|
| 1. | | | |
| 2. | | | |
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Exhibit B - Documents provided to Dr Jorge Padilla

A.2 This exhibit lists the documents provided to me on which I rely.

| No. | Document description |
|-----|-----------------------------------------------------------------------|
| 1 | MOCN Service Agreement (Variation No.1 – consolidated with site list) |
| 2 | Updated Regional Network Research 1a vs 2a vs 2b + 3 07.10.2022 |
| 3 | Telstra TPG MOCN – Authorisation Application (TPG Version) |
| 4 | Port out survey, April 2022. |

Exhibit C - Other documents relied on

A.3 This exhibit lists additional documents, which were not provided to me, on which I rely.

| No. | Document description |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | ACCC, Mobile roaming declaration inquiry final report, 2017 |
| 2 | ACCC, Communications Market Report 2020-21, December 2021 |
| 3 | T.M. Valletti, S. Hoernig and P.P. Barros (2001), "Universal Service and Entry: The Role of Uniform Pricing and Coverage Constraints". Journal of Regulatory Economics 21, p. 9-10 |
| 4 | European Commission, Commission Staff Working Document on the review of the roaming market, 2019 |
| 5 | Axon cost model (https://digital-strategy.ec.europa.eu/en/library/finalisation-mobile-cost-model-roaming-and-delegated-act-single-eu-wide-mobile-voice-call), accessed 28 October 2022 |
| 6 | ACCC, Public inquiry on the access determination for the Domestic Mobile Terminating Access Service – Final Report, 2020 |
| 7 | Analysys Mason, "Inputs and outputs of MTAS benchmark", accompanying "Final benchmark report for the ACCC", September 2020 |
| 8 | TPG's HY22 Financial Results Investor Presentation dated 19 August 2022 |
| 9 | TPG FY21 Results Presentation |
| 10 | Ericsson Mobility Report 2020 |
| 11 | Telstra's Full Year Results FY22, Supporting material – Financial Tables |
| 12 | Telstra Annual Report 2022 |
| 13 | L. Kaplow and C. Shapiro, Antitrust, NBER Working Paper No. w12867, January 2007 |
| 14 | Aghion, P. et al (2005), "Competition and innovation: an inverted U Relationship", The Quarterly Journal of Economics, Vol. 120, No.2 |
| 15 | ACCC's view on competition (https://www.accc.gov.au/business/competition), accessed 28 October 2022 |
| 16 | ACCC, Mobile Infrastructure Report 2021, December 2021 |
| 17 | Ofcom, Wholesale mobile voice call termination, 15 March 2011 |
| 18 | ACCC Telecommunications Report 2013-14 |
| 19 | Baker, Jonathan, "Beyond Schumpeter vs Arrow: How Antitrust Fosters Innovation" Antitrust Law Journal No 3, 2007 |
| 20 | Nikos Katinakis "Breaking upload speed records on 5G", dated December 17, 2021. https://exchange.telstra.com.au/telstra-5g-speed-record/ , accessed on 28 October 2022 |

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