Appendix 1: The Port

13.1. The port licence holder

In 2016, the government awarded a 50-year lease for the commercial operations of the Port of Melbourne to the Lonsdale Consortium comprising the Future Fund, Queensland Investment Corporation (QIC), Global Infrastructure Partners (GIP) and Ontario Municipal Employees Retirement Scheme (OMERS).

The Lonsdale Consortium commenced operations and became the 'port licence holder' on 1 November 2016. As the port licence holder, it is responsible for:

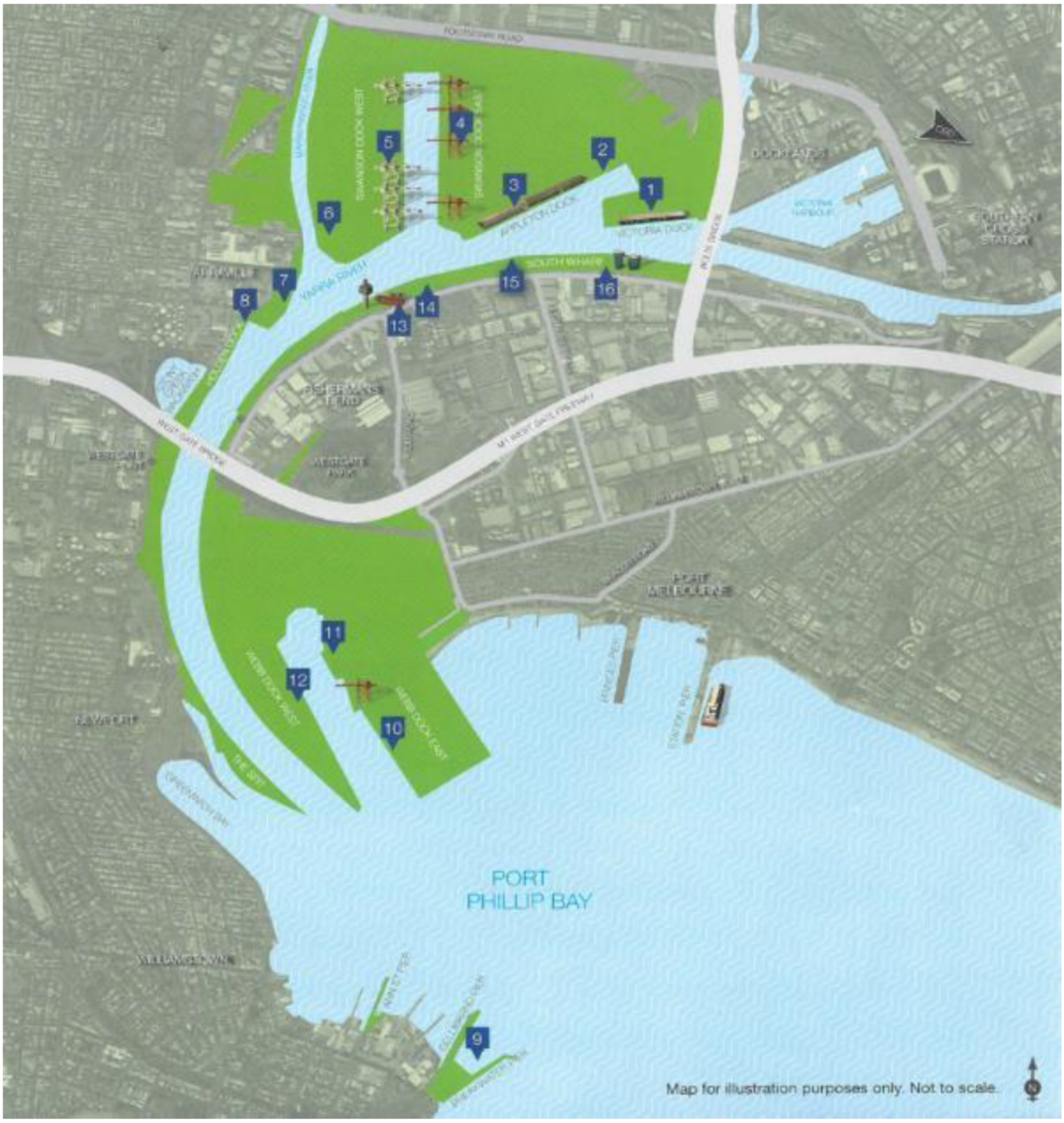
- operation of wharves and berths (excluding Station Pier and West Finger Pier)
- maintenance and operation of shipping channels
- management of approximately 500 hectares of land (mainly used for commercial purposes).

The port licence holder also holds the functions of the port lessee and the Port of Melbourne operator as defined in the *Port Management Act 1995* (Vic). It has chosen to use the Port of Melbourne name for its operations. We therefore refer to the port licence holder, the port lessee and the Port of Melbourne operator as the Port of Melbourne (the Port) for the purposes of this inquiry.

13.1.1. The main operators at the Port of Melbourne

The Port is Australia's largest container, automotive and general cargo port. It is Victoria's only port to handle containers. It also handles a variety of non-containerised cargoes, across its 35 commercial berths, jetties, and piers in nine separate port precincts. Figure 13.1 identifies the land (in shaded green) and key precincts (numbered) of the Port.

Figure 13.1 Port of Melbourne land and port precincts



1. 24 Victoria Dock	7. 5&6 Yarraville Berth	13. Port Education Centre
2. F Appleton Dock	8. Holden Dock	14. 33 South Wharf
3. B-E Appleton Dock	9. Gellibrand & Breakwater Pier	15. 27-31 South Wharf
4. 1-4 Swanson Dock East	10. 4-5 Webb Dock East	16. 26 South Wharf
5. 1-4 Swanson Dock West	11. 1-2 Webb Dock East	
6. No. 1 Maribyrnong	12. 1-3 Webb Dock West	

Source: Port of Melbourne, 'Fishermans Bend planning review - Hearing document 332 - Port of Melbourne site visit materials', p.2

Containers are the main type of cargo to pass through the Port, with more than 2.8 million handled in financial year 2019-20. They are handled by one of three terminal operators:

- DP World Australia – operates at Swanson Dock West
- Patrick Container Terminals – operates at Swanson Dock East
- Victorian International Container Terminal Limited (VICT) – operates at Webb Dock East.

Motor vehicles also account for a significant share of cargo at the Port, with over 253,000 vehicles handled in financial year 2019-20. Motor vehicles are handled by the Melbourne International Roll-on/Roll-off (RoRo) and Automotive Terminal (MIRRAT) that operates the specially designed RoRo terminal at Webb Dock West. Other terminals or precincts at the Port are managed by operators for general cargo and dry and liquid bulk cargo. Some of these terminals are multipurpose and handle a variety of non-containerised pack types and break bulk, while others are specialised and handle dry cargo or bulk liquids.

Appendix 2: Return on capital

The Port engaged consultants Synergies Economic Consulting and Incenta for its 2020-21 beta review, to estimate its WACC. The Port adopted Synergies' advice in its entirety in each of its tariff compliance statement. While we refer to Synergies' report throughout this appendix, we have taken Synergies' estimates, analysis, and all statements to be adopted by the Port in its approach to return on capital.

14.1. The Port's approach to estimating its cost of equity

This section outlines our detailed assessment of why we consider the Port's use of the Fama French three-factor model (FFM) and the Black Capital Asset Pricing Model (Black CAPM) are not 'well accepted' approaches to determine the cost of equity for a benchmark efficient entity for the purposes of calculating a revenue requirement.

To estimate the return on equity, the Port combined the results of three models with varying weights over the review period. The three models are the Sharpe-Lintner Capital Asset Pricing Model (SL CAPM), the Black CAPM and the FFM.

14.1.1. What is the Sharpe-Lintner Capital Asset Pricing Model?

The SL CAPM is the original formulation of the CAPM, under which expected returns for an asset are equal to the risk-free rate plus beta times the market risk premium. Beta represents the extent to which market returns affect the returns on an individual security.

The SL CAPM is expressed as:

$$Return\ on\ equity_{SL} = R_f + \beta_e * [E(R_m) - R_f]$$

where:

R_f is the risk-free rate of return

β_e is the equity beta (measures systematic risk)

$E(R_m)$ is the expected return on the market

$[E(R_m) - R_f]$ is the market risk premium.

14.1.2. What is the Fama French model?

Eugene Fama and Ken French developed their model in response to empirical evidence that the SL CAPM does not effectively explain actual stock returns. In their research, Fama and French found that two entity characteristics, small firm size and high book-to-market ratio, were associated with higher stock returns and improved the explanatory power of asset pricing models for ex-post stock returns. The findings of Fama and French were based on empirical testing of historical stock returns and a range of explanatory variables. Fama and French concluded that the two variables (the 'value' and 'size' premiums) adequately explained the cross-section of average returns for a certain dataset of historical US stock returns.[244]

The FFM effectively extends the SL CAPM to include these additional characteristics (through 'small-minus-big' and 'high-minus-low' factors respectively) and estimates the return on equity using the equation:

$$Return\ on\ equity_{FFM} = Risk\ free\ rate + \beta_{mkt}(Market\ risk\ premium) + (\beta_{value} * HML) + (\beta_{size} * SMB)$$

where:

β_{mkt} is the market excess returns beta

β_{value} is the high-minus-low factor beta

β_{size} is the small-minus-big factor beta

HML is the expected value premium, which is the average return on two value portfolios minus the average return on two growth portfolios

SMB is the expected size premium, which is the average return on three small portfolios minus the average return on three big portfolios.

In the FFM, the risk-free rate and market risk premium estimates are the same as those used in the SL CAPM. As a result, the FFM produces similar results to the SL CAPM when the value premium and size premium are set at zero.[245]

14.1.3. What is the Black Capital Asset Pricing Model?

Fischer Black developed another version of CAPM, called Black CAPM or zero-beta CAPM, that does not assume the existence of a riskless or risk-free asset. The Black CAPM augments the SL CAPM by adding what is known as a zero-beta portfolio to the risk-free rate to take into account

[244] Fama, E. & French, K., 'Common risk factors in the returns on stocks and bonds', Journal of Financial Economics, vol. 33(1), February 1993, p.4.

[245] The results are not identical as the SL CAPM market beta arises from a regression of asset returns on the market return, while the FFM market beta arises from a multiple regression of asset returns on market returns and two other portfolio returns.

the observed tendency of the SL CAPM to understate asset returns for companies with betas less than one.[246]

The Black CAPM is expressed as follows:

$$Return\ on\ equity_{Black} = Rz + \beta_e * [E(R_m)\ -\ Rz\,]$$

where:

Rz is the rate of return on the zero-beta portfolio (equal to risk-free rate plus zero beta premium)

β_e is the equity beta (measures systematic risk)

$E(R_m)$ is the expected return on the market

$[E(R_m) – Rz]$ is the zero-beta adjusted market risk premium

Zero beta premium is the difference between the expected return to a zero-beta portfolio and the risk-free rate. A zero-beta portfolio is a portfolio built with zero systematic risk. I.e., the investments comprised in a zero-beta portfolio are chosen so that the portfolio's value does not fluctuate as a result of market movements.

14.1.4. The FFM is not 'well accepted' for the purposes of setting a revenue requirement for a benchmark efficient entity

As part of its justification that the FFM is 'well accepted',[247] the Port identified 'several examples of regulators applying or considering the use of the FFM'.[248] The Port also outlined the usage of the FFM in academia and among financial practitioners. While these examples provide context to the FFM, we are particularly interested in the model's application for the purpose of setting a revenue requirement for a benchmark efficient entity.

The Port's application of the FFM produces notably higher results than its estimates of the SL CAPM and Black CAPM and has resulted in a higher overall return on equity estimate for the Port.

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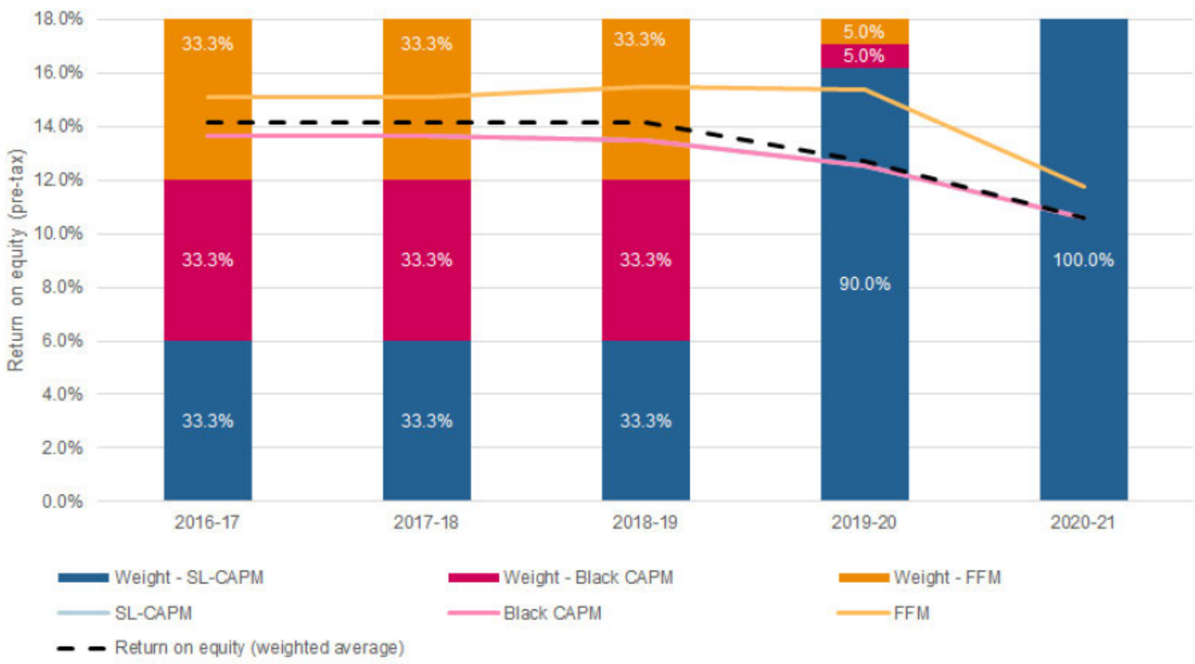
[246] Black, F., 'Capital market equilibrium with restricted borrowing', The Journal of Business, vol. 45(3), July 1972, pp.444-454.

[247] We refer to 'well accepted' in the context of clause 4.3.1 of the pricing order.

[248] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2018, pp.75-78; May 2019, pp.110-114; May 2020, pp. 279-283.

Figure 14.1 Evolution of the Port's return on equity estimates



Note: SL-CAPM and Black CAPM values are overlapping as Black CAPM produces the same return on equity estimates as SL-CAPM when beta is equal one.

Source: The Port's 2017-18, 2018-19, 2019-20 and 2020-21 tariff compliance statements.

The FFM is not used by any Australian regulator

The Port acknowledges that, 'no Australian regulator has moved away from SL CAPM in favour of the FFM or any other return on equity model'. The Port submits however that 'the SL CAPM, if relied upon exclusively, will tend to understate the return necessary to commensurate the Port for the risks involved in providing Prescribed Services and thereby not achieve the regulatory objectives.'[249]

The Port provided an example of an Australian regulator expressing a 'willingness to consider implementing the FFM in the future'.[250] This regulator, IPART, stated that it would, 'monitor the FFM over the next five years to examine how it would perform if we adopted it instead of the SL CAPM in our WACC method'.[251] The Port stated that IPART's views lend credence to the

[249] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2019, p.116.

[250] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.75.

[251] IPART, 'Review of our WACC method: Final report', February 2018, p.98.

implementation of a multi-model approach to estimating the return on equity.[252] This is not an example of a regulator 'applying or considering the results of the FFM'. IPART has maintained the use of the SL CAPM as its return on equity model and did not find sufficient evidence to replace this model.[253]

The Port conceded that, 'IPART's stance on the FFM is not yet an example of an Australian regulator actually applying the Fama-French model to calculate a WACC'. But notes that, 'IPART's preparedness to consider the FFM at a future methodology review is a significant development' and that 'it is unlikely that IPART would even be monitoring the FFM if it could not be fit for purpose for calculating the return on equity in a building blocks framework'.[254]

We note that in IPART's 2018 paper, Review of our WACC Method, IPART stated that, 'some regulated firms contend that the FFM should be included in cost of equity estimations, stating that the increased explanatory power sufficiently outweighs any theoretical concerns or costs of implementation'.[255] IPART argued that, 'while it is sufficient to warrant estimation and comparison of FFM estimates, it is not sufficient reason to replace the SL-CAPM as its model'.[256]

IPART stated that, 'the FFM may provide a better statistical fit to historic returns data, but this statistical power varies significantly over time. In particular, there is empirical evidence that the impact of firm size on equity returns is not stable over time in Australia'.[257]

We maintain our view that the FFM is not well-accepted by any Australian regulator.

The Port appears to overstate instances of the use of the FFM by international regulators

The Port referred to some international examples of the FFM's use (such as the New Zealand Commerce Commission considering the use of FFM as a cross-check[258]), as well as its use in some state-based regulatory processes in the USA. Our observations on these are:[259]

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[252] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.75.

[253] IPART, 'Review of our WACC method: Final report', February 2018, p.98.

[254] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2019, p.116.

[255] IPART, 'Review of our WACC method: Final report', February 2018, p 98.

[256] ibid.

[257] ibid.

[258] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.75.

[259] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2018, pp.75-78.

- The examples involving the Public Utilities Commission of Nevada and Mr Knecht do appear to reflect use of the FFM for the relevant decisions.
- The Port stated that Professors Myers and Franks consider the FFM is to be an 'appropriate' model. This reflects the advice of these academics and not views or decisions of the New Zealand Commerce Commission.
- The Port used similar examples when referring to expert witnesses; Mr Paul Moul, Mr Paul Hunt and Mr Gary Hayes. These individuals are not regulators and are not applying the FFM for the purpose of setting a revenue requirement for a benchmark efficient entity.
- The Port stated that the United Kingdom Competition Commission (UKCC) used the FFM in a liquefied petroleum gas inquiry. The UKCC used the FFM to address a claim that a 'small company premium' be added to the WACC. The UKCC used the FFM to conclude that this premium was not statistically significant.[260] The Port states that this should not detract from this being an example of FFM being adopted in a regulatory setting.[261] We disagree because this is not an example of a regulator using the FFM to set a regulated return on equity. That the UKCC found the FFM's parameter estimates to be not statistically significant is similar to several other examples listed by the Port, which we explore below.
- The United States Federal Energy Regulatory Commission (FERC) supported the use of a size adjustment to the CAPM for New England Transmission Owners[262] and the Midcontinent Independent System Operator.[263] However, in its determinations, the United States Federal Energy Regulatory Commission did not specifically apply the FFM.
- Various examples provided by the Port in its review of expert reports and of financial practice highlight the making of ad hoc adjustments to the SL CAPM formula, rather than adoption of the FFM. The Port explicitly notes this practice is, 'consistent with the underlying rationale of the FFM' rather than use of the FFM.[264] Further below we note it is also common practice for Australian regulators to use the SL CAPM with some adjustments and cross checks, rather than adopt an alternative model for estimating the cost of equity.
- The Port notes that, 'in the 344 independent expert reports that we interrogated, we have not located any formal application of the three-factor Fama-French Model as it is employed in the

[260] UK Competition Commission, 'Market investigation into supply of bulk liquefied petroleum gas for domestic use', 29 June 2006, Appendix K, p.K12.

[261] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.76.

[262] US Federal Energy Regulatory Commission, 'Opinion No. 531-B: Order on rehearing', 150 FERC 61,165, March 2015, p.64.

[263] US Federal Energy Regulatory Commission, 'Opinion No. 551: Order on initial decision', 156 FERC 61, 234, September 2016, p.74.

[264] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.80.

Port's WACC report.' This is a significant finding in that it does not appear to support the Port's claim that the FFM is 'well accepted' by financial practitioners, and highlights that the FFM can take various forms. The variability in how the FFM is applied gives rise to concerns on theoretical and empirical grounds, explored further below.

Australian regulators have recognised issues with the SL CAPM but do not use the FFM or the Black CAPM as alternative models

All Australian regulators currently rely on the SL CAPM either alone or as a 'foundation model'[265] to estimate the return on equity for regulated businesses. While Australian regulators discussed issues with the SL CAPM (such as downward biased estimates for low-beta firms), in some cases, these have been accounted for when determining inputs to the SL CAPM rather than using the FFM or Black CAPM. No Australian regulator has moved away from the SL CAPM in favour of the FFM or any other return on equity models such as Black CAPM. Professor Kevin Davis, in a report for the Australian Energy Regulator (AER) in 2011, stated his view that there is a lack of general agreement on the superiority of alternative asset pricing models to the CAPM.[266]

Currently, IPART makes adjustments to its estimation of equity betas to partly correct for the downward bias of the SL CAPM.[267] IPART implements the Vasicek adjustment, which gives a higher weight to more precisely estimated equity betas and lower weight to estimated equity betas with higher standard errors.[268] IPART chose not to use the Black CAPM to address downward bias of the SL CAPM in favour of using the Vasicek adjustment.[269] IPART was of the view that the adjusted equity beta estimates sufficiently accounted for the known downward bias of the SL CAPM.[270]

Decisions by other Australian regulators and courts support the view for not using the Black CAPM as an alternative model to the SL CAPM to estimate the return on equity. For example, the Australian Competition Tribunal (Tribunal) in July 2018 upheld the Economic Regulation Authority Western Australia's (ERA) decision to reject the low beta bias when estimating the return on

[265] For example, the AER uses the SL CAPM but has had regard to the Black CAPM when setting the equity beta in its 2013 rate of return instrument. However, in its 2018 rate of instrument, AER signalled diminished confidence in the robustness of the Black CAPM when determining the value of beta. See AER, 'Rate of return instrument: Explanatory statement', December 2018, p.148.

[266] Davis, K., 'Cost of equity issues: A report for the AER', 16 January 2011, p.5.

[267] IPART, 'Review of our WACC method: Final report', February 2018, p.96.

[268] ibid.

[269] ibid.

[270] IPART, 'Review of our WACC method: Final report', February 2018, p.97.

equity. It rejected adjustments both quantitatively (to the return on equity based on historical returns) and qualitatively (to select a top of the range equity beta). It noted that the former would be 'near impossible' and the latter would be arbitrary. The Tribunal considered that the exercise by the ERA of regulatory judgment was correct, having regard to all the circumstances, and that it was not unreasonable.[271]

The AER does not make a specific adjustment to the SL CAPM, but does consider other information when determining the final return on equity point estimate.[272] In particular, the AER uses estimates from a number of models to inform its SL CAPM estimates, including the Black CAPM and the Dividend Discount Model, as well as profitability analysis, finance ability analysis and RAB multiples.[273] The practice of 'cross checking' inputs to and outputs of the SL CAPM, is adopted by other regulators including the ERA[274] and Queensland Competition Authority (QCA)[275] and is intended to overcome shortcomings in parameter estimation and in mechanistically applying the SL CAPM.

The AER set out in its 2018 Rate of Return Instrument that its decision was, 'to not adjust its Sharpe-Lintner CAPM return on equity estimate for the low beta bias and the Black CAPM'.[276] The AER made the following observations:

- The SL CAPM remains the standard and most widely used model in practice.
- The AER received no evidence of Australian market practitioners considering low beta bias or using the Black CAPM.
- Experts and submissions did not provide sufficient evidence that the low beta bias is factored in or that investors and market practitioners account for it on an ex-ante basis.
- The Black CAPM has empirical issues including instability, sensitivity to the choice of inputs, lack of consensus, and nonsensical and counter-intuitive results.
- Observations of higher actual returns than the SL CAPM estimates for low beta stocks do not necessarily imply low beta bias or that the bias should warrant increasing the allowed rate of

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[271] Australian Competition Tribunal, 'Application by DBNGP (WA) Transmission Pty Ltd [2018] ACompT1', July 2018, para 289, 295.

[272] AER, 'Rate of return instrument: Explanatory statement', December 2018, p.74.

[273] AER, 'Rate of return instrument: explanatory statement', December 2018, pp.82-83.

[274] ERA, 'Rate of Return Guidelines - Meeting the requirements of the National Gas Rules', December 2013, pp.22-23.

[275] QCA, 'Draft decision - Aurizon Network's 2017 draft access undertaking', December 2017, pp.125-133.

[276] AER, 'Rate of return instrument: Explanatory statement', December 2018, p.196.

return. A range of reasons can explain these observations and it is not clear investors expect a higher return from low beta stocks.[277]

- Moreover, the AER had stated that since the 2013 Guideline, its confidence in the Black CAPM model has 'diminished' based on its assessment of information. Hence, the AER was not persuaded to use the Black CAPM model to select an equity beta point estimate.[278] Some of the reasons the AER stated for its diminished confidence in the Black CAPM model include:
  - The empirical implementation is unreliable.
  - There was little evidence that other regulators, academics, or market practitioners use the Black CAPM to estimate the return on equity.
  - Implementing the Black CAPM typically results in estimates of the zero-beta return being less reflective of prevailing market conditions than risk free rate estimates.[279]

The above regulators do not estimate the Black CAPM quantitatively as the Port has done. Therefore, whilst the 'theoretical principles underpinning the Black CAPM' may be accepted by a small number of regulators, the position on the material provided to date appears to be that the Black CAPM, as applied by the Port, is not accepted by any regulator in Australia for the purposes of setting a revenue requirement for a benchmark efficient entity.

14.1.5. The FFM appears to have theoretical issues

The Port stated that its FFM estimate is higher than those for the SL CAPM and Black CAPM, reflecting the incorporation of the two additional risk factors that, along with systematic market risk, explain investors' expected return on equity for the benchmark efficient entity.[280]

Several Australian regulators have raised concerns with the theoretical basis for the FFM's risk factors. Specifically, while these factors have been identified through empirical methods to explain ex post equity returns, how they explicitly or implicitly affect investors' perceptions of risk is not well understood.

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[277] AER, 'Rate of return instrument: Explanatory statement', December 2018, p.196.

[278] AER, 'Rate of return instrument: Explanatory statement', December 2018, p.197.

[279] AER, 'Rate of return instrument: Explanatory statement', December 2018, p.207.

[280] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.111.

In its 2013 and 2018 rate of return guideline reviews, the AER stated that the FFM could not be used to inform any input parameter estimates in its foundation model due to its lack of clear theoretical foundation.[281]

The ERA, in the context of a 2016 decision on the Dampier to Bunbury Natural Gas Pipeline, also noted that the FFM is, 'empirically unstable due to the fact that the model is not developed on a robust theory'.[282]

The ERA raised a similar view on the theory of the FFM in its 2015 final decision on ATCO Gas's access arrangement for gas distribution.[283] Specifically, the ERA stated that there is no strong theoretical basis to support the inclusion of the size and value risk factors in the return on equity estimation.[284] The ERA considered that the FFM risk factors were selected based on data exploration and were not guided by any economic theory.[285] The ERA noted that the introduction of the Fama French five-factor model has placed the validity of the value premium in doubt, based on Fama and French suggesting the value premium appears redundant for explaining average returns in this new model.[286]

On appeal, the Australian Competition Tribunal did not find that the ERA made any error in its determination relating to the FFM. In particular, the Tribunal considered that it was not unreasonable for the ERA to be concerned over the theoretical foundations of the FFM, due to the empirical facts of the model not being generally agreed.[287]

14.1.6. The FFM has been found to produce unreliable empirical results

Regulators in Australia have found it difficult to apply the FFM in a regulatory context due to a lack of consensus on the appropriate risk factors and portfolio formation. Regulators have also found

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[281] AER, 'Explanatory statement rate of return guideline (appendices)', December 2013, pp. 22-23; AER, 'Draft rate of return guidelines: Explanatory statement', July 2018, p.41.

[282] ERA, 'Draft decision on proposed revisions to the access arrangement for the Dampier to Bunbury Natural Gas Pipeline 2016-2020: Appendix 4 rate of return', December 2015, p.158.

[283] ERA, 'Final decision on Proposed Revisions to the Access Arrangement for the Mid-West and South-West Gas Distribution Systems', June 2015, p. 612.

[284] ibid.

[285] ERA, 'Draft decision on proposed revisions to the access arrangement for the Dampier to Bunbury Natural Gas Pipeline 2016-2020: Appendix 4 rate of return', December 2015, p.227.

[286] ibid.

[287] Australian Competition Tribunal, 'Application by ATCO Gas Australia Pty Ltd [2016] ACompT 10', 13 July 2016, para. 668.

that the results of the FFM are dependent upon the methodology chosen, and the robustness of the FFM risk factors in explaining Australian data has been questioned.

The Port listed a number of academic studies that suggest the FFM provides a better explanation of observed stock returns than the SL CAPM, including for Australian datasets.[288] The following studies provide mixed evidence on the reliability of the FFM:

- Gaunt (2004) found that size was the major factor.
- Gharghori et al (2009) and O'Brien et al (2010) found that both size and book to market were important.
- Brailsford et al (2012) found clear evidence for only the value effect.
- Abhakorn et al (2013), Chiah et al (2016) and Huynh (2017) found evidence for only the value effect.

We note these results are inconsistent, and the most recent studies do not appear to provide clear evidence in support of the size effect.

The Port noted that past studies of the FFM in the Australian market have yielded inconclusive results, which may be due to 'data issues'.[289] The Port stated that the Brailsford et al study (2012) addressed these issues and produced FFM estimates using Australian data that reconciled with US studies.[290] As noted above, Brailsford et al found the value premium was statistically significant, while the size premium was not.

The Brailsford et al study has been relied on by other regulated entities in proposing reliance on the FFM. The ERA, in its 2015 final decision for ATCO Gas, decided against relying on the Brailsford et al study. The ERA did not agree with ATCO's consultants that one study is superior to others.[291] In the subsequent review of the ERA's decision by the Australian Competition Tribunal, the Tribunal accepted that the ERA considered the latest available research before rejecting the use of the FFM.[292]

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[288] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2018, pp.72-74.

[289] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.71.

[290] ibid.

[291] ERA, 'Final decision on Proposed Revisions to the Access Arrangement for the Mid-West and South-West Gas Distribution Systems', June 2015, p.224.

[292] Australian Competition Tribunal, 'Application by ATCO Gas Australia Pty Ltd [2016] ACompT 10', 13 July 2016, paras 679-680.

The Port also noted that the most recent studies employ a five-factor model, rather than the three-factor model it uses in its submission.[293] The Port also reviewed a number of independent Australian financial expert reports, where around 30 per cent of reports made ad hoc adjustments to the SL CAPM, although none formally used the three-factor FFM.[294] The Port was not clear on how often the financial expert reports use value and size premiums compared to other ad hoc adjustments.

Australian regulators have found that the FFM has empirical issues in a regulatory context

The ERA has conducted research on the various attempts to apply the FFM in Australia using Australian data. The ERA noted that the ranges of the high-minus-low and small-minus-big risk premium were too large to confirm the presence of these risk factors when using the FFM in Australia.[295] The ERA noted that a fundamental issue with the application of the FFM in Australia is the adoption of different approaches to portfolio formation, which can lead to different conclusions.[296] The ERA suggested that there is no strong theory to guide the method of portfolio formation due to the inherent empirical nature of the types of studies the FFM has been used in.[297]

The ERA also recognised that the FFM is dependent on empirical justification (the systematic observance of the FFM risk premia).[298] The ERA noted that because these risk premia are not systematically observed in the Australian market, there is no reasonable basis for this model to be applied in Australia.[299] The ERA further justified its rejection of the FFM's value and size premium in its 2015 final decision for ATCO Gas:[300]

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293 Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.73.

294 Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2018, pp.79-80.

295 ERA, 'Final decision on Proposed Revisions to the Access Arrangement for the Mid-West and South-West Gas Distribution Systems', June 2015, p.232.

296 ERA, 'Final decision on Proposed Revisions to the Access Arrangement for the Mid-West and Southwest Gas Distribution Systems', June 2015, p.616.

297 ibid.

298 ERA, 'Final decision on Proposed Revisions to the Access Arrangement for the Mid-West and Southwest Gas Distribution Systems', June 2015, p.612.

299 ibid.

300 ERA, 'Final decision on Proposed Revisions to the Access Arrangement for the Mid-West and South-West Gas Distribution Systems', June 2015, p.226.

> the 2012 Brailsford, Gaunt and O'Brien study (as relied on by ATCO's consultants) concluded that the size premium is not priced in Australia. A number of the academic studies referenced by Synergies in its submission suggest a similar finding for the size premium.[301]

In Fama and French's most recent five factor model, they conclude that the value premium has become redundant in explaining average returns.

The AER has similarly dismissed various proposals to rely on the FFM for a range of reasons, including:[302]

- The FFM's empirical implementation is relatively complex and opaque.
- There appears to be no consensus on the appropriate factors and choice of methods for the FFM.
- The FFM is sensitive to the choice of factors and methodology, creating a potential for bias and regulatory gaming.
- There is no agreed 'best' methodology for applying the FFM and there are no clear objective grounds to distinguish the 'best' studies of FFM estimates.

In IPART's 2018 review of its WACC methodology, it noted some shortcomings with the FFM, including that the empirical evidence on the impact of firm size on equity returns had not been stable over time in Australia.[303]

14.1.7. Statistical insignificance of the zero-beta premium for the Black CAPM is a material concern

The Port's Black CAPM estimate for the cost of equity matches that for the SL CAPM. In circumstances in which the equity beta is 1.0, which is the case in the Port's tariff compliance statements over the period 2016-17 to 2020-21, the SL-CAPM and the Black CAPM produces identical return on equity estimates, all else remaining equal.

The Port's estimate for the zero-beta premium for the tariff compliance statement 2019-20 is 3.36 per cent per annum, revised from 3.34 per cent in 2018-19. This estimate is derived from a 2014 study by SFG, using data for 1994 to 2014, which the Port considered to be the best available in

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[301] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2018, pp.72-75.

[302] AER, 'Draft decision: AusNet Services gas access arrangement 2018 to 2022 – Attachment 3: rate of return', July 2017, pp. 3-204 to 3-205; AER, 'Final Decision APA VTS gas access arrangement 2018 to 2022 - Attachment 3 – Rate of return', November 2017, pp.3-180 to 3-188.

[303] IPART, 'Review of our WACC method: Final report', February 2018, p.98.

Australia without further explanation.[304] We could not find any information on the reliability of this estimate in the SFG study, which is a concern. SFG listed estimates and associated standard errors for a different estimation process, which yielded an estimate of the premium of 0.238 per cent per four weeks (or 3.14 per cent per annum), with a reported 90 per cent confidence interval of -0.40 to 0.88 per cent.[305] That is, this estimate is not statistically significant.

Furthermore, it does not appear that there is any methodology for estimating the zero-beta premium that is substantially different to that used by SFG, and this adds to the difficulties of obtaining a reliable estimate for this parameter.

In the 2019-20 tariff compliance statement, the Port acknowledged that the new estimate for the zero-beta premium with a t-statistic of 0.61 remains statistically insignificant. Synergies noted that the estimate, 'has remained very stable over the last five years' and, 'is the most robust estimate of this parameter currently available in an Australian context'.[306] To overcome the statistical weakness the lower weight (five per cent) was assigned to the return on equity estimated using the Black CAPM model.[307]

We do not believe it is reasonable to use 'weights' as an appropriate methodology to overcome the statistical weakness in the Black CAPM estimate. This issue will become significant in the event the best forecast or estimate of the equity beta to be used in the WACC is less than 1.0. In cases where the equity beta is lower than 1.0, the Black CAPM will typically produce a higher cost of equity estimate than the SL-CAPM, all else remaining equal.

14.2. Market risk premium

14.2.1. What is the market risk premium?

The MRP is an input to the CAPM used to estimate the cost of equity for a particular asset. The CAPM states that the return required by investors for investing in a particular asset (denoted with subscript 'i' in the equation below) is the risk-free rate plus a risk premium commensurate with the systematic, non-diversifiable risk associated with that asset.

$$Cost\ of\ equity_i = Risk\text{-}free\ rate + (MRP\ \times Beta_i)$$

[304] Essential Services Commission, Interim commentary - Port of Melbourne tariff compliance statement 2018-19, October 2018, p.53.

[305] SFG, 'Cost of equity in the Black Capital Asset Pricing Model - Report for Jemena Gas Networks, ActewAGL, Networks NSW, Transend, Ergon and SA Power Networks', May 2014, Table 3, Panel D.

[306] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2019, p.239.

[307] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2019, p.104.

The MRP represents the minimum return above the risk-free rate that equity investors would require to invest in a diversified portfolio containing all assets in the economy. Beta is a measure of the non-diversifiable 'systematic' risk associated with the particular investment. That is, the MRP is the premium that investors would require to compensate them for an investment of average risk, and beta is a scale factor that indicates whether the investment in question has more or less systematic risk than average.

In a regulatory setting, and unlike beta and gearing, the MRP is a market-wide parameter and is less dependent on industry or jurisdictional specific factors. An exception to this is the assumed investment horizon, which can sometimes differ between regulatory decisions. That is, expected returns over a shorter time horizon can be higher or lower than over longer time horizons.

The MRP is not directly observable and is a forward-looking estimate. Values across regulatory decisions reflect different views on what observable data is relevant, as well as how this data changes over time.

There is a reasonable degree of consistency across regulators in identifying the data sources that could be relevant for estimating the MRP, and the strengths and weaknesses of each. There is less consistency in how these data sources are used in setting the MRP. Australian regulators tend to consider the following data sources in estimating the MRP:

- long-run averages of historical excess returns (HER)
- the Wright method, i.e., the difference between a long-run historical market return and the prevailing risk-free rate
- dividend discount models (DDMs)
- surveys of academics and finance practitioners
- independent expert valuation reports
- other data sources such as dividend yields, 'implied' volatility, and credit spreads.

Some data is used directly in calculating the MRP value, others are used as 'cross checks' or to guide the use of judgement, while some are discounted entirely. There are also some variations in the construction of estimates or ranges of estimates from each individual data source.

Despite these variations and differences in data sources, the MRPs underlying the recent regulatory decisions represented are outlined in Table 14.1.

14.2.2. Methodologies

We review in detail the MRP methodologies used by Australian regulators in past decisions. This reflects the regulators' assessment of the relative strengths and weaknesses and evidence supporting each method.

Table 14.1: MRP methods in Australian regulatory decisions in force during the review period relative to the Port's tariff compliance statements

Entity	HER	Wright	DDM	Surveys/ expert reports	Siegel	Market indicators	Regulatory precedent	MRP estimate
2017-18 tariff compliance statement								
Port (2017)	50%	50%	-	-	-	-		7.77%
AER (2016)	Most reliance	-	Less reliance	Some reliance	-	Cross check	Cross check	6.50%
ACCC (2015)	Most reliance	-	-	Some reliance	-	Cross check	Some reliance	6.00%
ERA (2017)	Some reliance	Preferred historical estimate	Some reliance to lower half of the range	-	-	-	-	7.20%
ESCOSA (2015)	Most reliance	-	-	-	-	-	Most reliance	6.00%
QCA (2016b)	30%/35%	10%/5%	20%/15%	10%/15%	30%	Cross check	-	6.50%
IPART (2013)	50%	-	50% in combination with market indicators	-	-	Used in combination with 5 DDMs	-	7.65%[308]
OTTER (2015)	-	-	-	-	-	-	Based on 2012 decision	6.00%
Industry Panel (2015)	-	-	100%	-	-	-	-	7.23%
2018-19 tariff compliance statement								
Port (2018)	50%	50%	-	-	-	-		7.71%
AER (2017)	Most reliance	-	Second most reliance	Some reliance	-	Cross check	-	6.50%
ACCC (2017)	Most reliance	-	-	Some reliance	-	-	Some reliance	6.00%

[308] IPART, 'Spreadsheet-wacc-model-february-2017.xlsx', 2017.

Entity	HER	Wright	DDM	Surveys/ expert reports	Siegel	Market indicators	Regulatory precedent	MRP estimate
ERA (2017)	Some reliance	Preferred historical estimate	Some reliance to lower half of the range	-	-	-	-	7.20%
ESCOSA (2015)	Most reliance	-	-	-	-	-	Most reliance	6.00%
QCA (2016b)	30%/35%	10%/5%	20%/15%	10%/15%	30%	Cross check	-	6.50%
IPART (2018)	50%	-	33%	-	-	17%	-	7.30%[309]
OTTER (2015)	-	-	-	-	-	-	Based on 2012 decision	6.00%
ACT Industry Panel (2015)	-	-	100%	-	-	-	-	7.23%
2019-20 tariff compliance statement								
Port (2019)	50%	25%	25%	-	-	-		7.77%
AER (2018)	100%	-	-	Cross check	-	-		6.10%
ACCC (2017)	Most reliance	-	-	Some reliance	-	-	Some reliance	6.00%
ERA (2018)	Most reliance (ca. 80%)	-	Less reliance (ca. 20%)	-	-	Cross check	-	6.00%
ESCOSA (2015)	Most reliance	-	-	-	-	-	Most reliance	6.00%
QCA (2018)	25%	15%	25%	20%	15%	-	-	7.00%
IPART (2018)	50%	-	33%	-	-	17%	-	7.35%[310]
OTTER (2018)	-	-	-	-	-	-	Based on AER (2013)	6.50%

[309] As of March 2018. See IPART, ‘Spreadsheet-wacc-model-august-2020’, 2020.

[310] As of March 2019. Refer to IPART, ‘Spreadsheet-wacc-model-august-2020’, 2020.

Entity	HER	Wright	DDM	Surveys/ expert reports	Siegel	Market indicators	Regulatory precedent	MRP estimate
ICRC (2018)	-	-	-	-	-	-	Based on AER (2017)	6.50%
2020-21 tariff compliance statement								
Port (2020)	70%	15%	15%	Cross check	-	-		7.57%
AER (2018)	100%	-	-	Cross check	-	-	-	6.10%
ACCC (2019)	-	-	-	-	-	-	Based on AER (2018)	6.10%
ERA (2019)	80%	-	20%	-	-	-	-	5.90%
ESCOSA (2020)	100%	-	-	Cross-check	-	-	-	6.00%
QCA (2020)	25%	15%	25%	20%	15%	-	-	7.00%
IPART (2020)	50%	-	33%	-	-	17%	-	7.85%
OTTER (2018)	-	-	-	-	-	-	Based on AER (2013)	6.50%
ICRC (2018)	-	-	-	-	-	-	Based on AER (2017)	6.50%

14.2.3. Australian Energy Regulator (AER)

When setting the MRP, the AER applies regulatory judgement to assess the usefulness of different types of evidence and how to use them to inform its MRP estimate. In its most recent rate of return instrument for electricity and gas networks (2018 RORI), the AER adopted an MRP estimate of 6.1 per cent based on HER over the period it considered most relevant (1988-2017). The AER explained that it relied on HER because this is directly observable, easily replicable, and transparent, and because it expected the MRP to change relatively slowly over time.[311] The AER cross-checked the HER estimate against surveys of academics and market practitioners and a range of conditioning variables (i.e., market data and indicators that provide information on the potential risk in the market).[312]

In its 2018 RORI consultations, the AER considered some DDMs, but expressed concerns with their reliability and accuracy. The AER decided not to increase its MRP estimate based on the results of these models. The AER noted that DDMs rely on analyst forecasts which tend to be upwardly biased and that a further upward bias could be introduced in these models by 'sticky dividends' (i.e. the idea that firms may be slower to lower than dividends in response to poor returns than to raise them due to good returns).[313] The AER explicitly rejected the Wright method, noting that it did not find significant evidence to support an estimable relationship between the MRP and the risk-free rate.[314]

In previous decisions, in line with the 2013 RORI, the AER relied on HER, its own specification of the DDM, surveys, and conditioning variables. The AER gave HER the most reliance. In its 2016 AusNet Services decision, the AER noted that the DDM was theoretically sound, but suffered from limitations in its practical implementation and was likely to be upwardly biased. As a result, the AER did not consider DDM estimates reliable enough to be used on their own, but relied on them to set an MRP point estimate above the range of historical returns. Other evidence was used merely as a cross-check.[315] In its 2017 ElectraNet transmission draft determination, the AER noted similar issues around the practical limitations of DDMs.[316]

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[311] AER, 'Rate of Return instrument: Explanatory Statement', December 2018, pp.220-221.

[312] AER, 'Rate of Return instrument: Explanatory Statement', December 2018, pp.236-238.

[313] AER, 'Rate of Return instrument: Explanatory Statement', December 2018, p.265.

[314] AER, 'Rate of Return instrument: Explanatory Statement', December 2018, p.231.

[315] AER, 'FINAL DECISION AusNet Services distribution determination 2016 to 2020: Attachment 3 – Rate of return', May 2016, p.59.

[316] AER, 'DRAFT DECISION ElectraNet transmission determination 2018 to 2023: Attachment 3 – Rate of return', October 2017, p.76.

14.2.4. Australian Competition & Consumer Commission (ACCC)

In its 2019 decision on Australia Post, the ACCC adopted an MRP of 6.1 per cent, in line with the AER's 2018 RORI. The ACCC considered that the MRP should be estimated based on HER.[317] Previous ACCC decisions set the MRP at six per cent, giving most relevance to HER as well as previous regulatory decisions by the AER and the ACCC itself.

14.2.5. Economic Regulation Authority, Western Australia (ERA)

In its most recent determinations, the ERA set the MRP based on HER and DDM estimates. While the ERA notes that it used regulatory discretion to reach a point estimate from these two methodologies, it appears to have placed 80 per cent weight on the HER estimate and 20 per cent weight on the DDM estimate. The ERA considered that HER is a simple and 'well accepted' method and the best source of evidence available to calculate the MRP. The DDM, while having the benefit of taking the current economic outlook into account, suffers from weaknesses including sensitivity to assumptions and upward bias.[318] The ERA did not consider the Wright method due to empirical and theoretical concerns.[319]

In its 2017 rail determination, however, ERA gave weight to the Wright method, and regarded it as its preferred method based on historical data (over HER). ERA also considered DDMs but decided to rely primarily on the lower end of these estimates.

14.2.6. Essential Services Commission of South Australia (ESCOSA)

ESCOSA's most recent determination of the MRP for SA Water is based on the HER method. While ESCOSA acknowledges concerns with this approach (including HER being backward-looking, volatile and potentially upward biased due to technology change and the liberalisation of financial markets), it considers that the HER method is difficult to improve upon. ESCOSA also considered surveys and market-implied estimates as cross-checks.[320]

In their 2015 determination, ECOSA confirmed a six per cent MRP estimate from a previous decision, having regard primarily to HER estimates.

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[317] ACCC, 'Decision on Australian Postal Corporation 2019 price notification', December 2019, p.37.

[318] ERA, 'Final Determination: 2018 and 2019 Weighted Average Cost of Capital: For the Freight and Urban Networks, and the Pilbara Railways', 22 August 2019, p. 52. Given ERA's HER estimate is 5.6% and its DDM estimate is 7.2%, we have calculated 5.6% x 80% + 7.2% x 20% = about 5.9%.

[319] ERA, 'Final Determination: 2018 and 2019 Weighted Average Cost of Capital: For the Freight and Urban Networks, and the Pilbara Railways', 22 August 2019, pp.51-52.

[320] ESCOSA, 'SA Water Regulatory Determination 2020: Draft Determination: Statement of reasons', March 2020, pp.324-326.

14.2.7. Queensland Competition Authority (QCA)

In recent decisions, the QCA has relied on a range of MRP estimates as weighted criteria; HER (25 per cent weight), DDM (25 per cent), surveys (20 per cent), Wright (15 per cent), and Siegel (15 per cent).[321] According to the QCA, this set of weights places more emphasis on the two methods that are entirely independent of each other (the HER and DDM), thus maximising the use of available information (historical and forward-looking) and reducing the mean square error of the MRP estimate. In addition to the weighted average, the QCA considers the simple average and the median of the MRP estimates, selecting a point estimate in between the three, rounded to the nearest 0.5 per cent. [322]

Previously the QCA gave more weight to methods based on historical excess returns (HER and Siegel had a combined weight of 60-65 per cent in the 2016 Dalrymple Bay Coal Terminal decision) and less to Wright and DDM.

14.2.8. Independent Pricing and Regulatory Tribunal (IPART)

IPART sets the WACC as the midpoint of a lower estimate based on current market data and an upper estimate based on long-term averages. In practice this means that some WACC parameters, including the MRP, are the midpoint between historical and forward-looking estimates.[323] IPART considers that this is appropriate because investors consider both long- and short-term values when making their investment decisions.[324]

The long-term estimate of the MRP, which effectively receives 50 per cent weight, is based on HER. The remaining 50 per cent weight is placed on the 'current' MRP, which is currently calculated as the average between the median of five DDMs (with two thirds weight) and the

[321] The Siegel method is an estimate of historical excess returns adjusted for the impact of unexpected inflation on the risk-free rate. The method is based on empirical evidence that historically unexpected inflation has artificially reduced the real returns on bonds but not the real returns on equities. To calculate the Siegel MRP, the QCA adds the long-term average real bond yield back into its HER estimate, then subtracts the expected long-run real risk-free rate (proxied by the average real yield on inflation-indexed bonds over the period since their issue in 1986). See QCA, 'Final decision: Cost of capital: Market parameters', August 2014, pp. 16, 59 and 62. The QCA's Siegel estimate of the MRP as of 31 March 2020 is 5.6 per cent versus a HER estimate of 6.2 per cent.

[322] QCA, 'Final report: Gladstone Area Water Board Price Monitoring 2020-25 Part A: Overview', May 2020, p. 89. QCA, 'Decision: Aurizon Network's 2017 draft access undertaking', December 2018, p.45.

[323] IPART, 'Review of prices for Sydney Water from 1 July 2020: Final report', June 2020, p.258.

[324] IPART, 'Review of our WACC method: Final Report Research', February 2018, p.50.

market indicators method (one third weight).[325] In its 2013 guidelines IPART instead used the midpoint of the six 'current' estimates.

14.2.9. Office of the Tasmanian Economic Regulator (OTTER)

In its most recent water determination, OTTER adopted the MRP set by the AER in its 2013 RORI, which gave greatest consideration to HER followed by DDMs and then surveys, resulting in an MRP estimate of 6.5 per cent, an uplift on the 6.0 per cent HER-based point estimate.[326] OTTER's previous determination, in 2015, simply accepted TasWater's proposed MRP of six per cent, which in turn confirmed a previous OTTER decision.

14.2.10. Independent Competition and Regulatory Commission (ICRC)

In its most recent water price review, the ICRC essentially adopted the MRP set by a 2017 AER gas transmission decision, considering that this was well supported by historical and current market information. The AER decision placed most reliance on HER, less reliance on DDMs, and some reliance on survey evidence and conditioning variables – resulting in an MRP estimate of 6.5 per cent, an uplift on the 6.0 per cent HER-based point estimate.[327]

14.2.11. Essential Services Commission

Until 2016, the commission set the MRP as part of the determination of return on equity for Victorian water companies. In 2008, the commission adopted an MRP of six per cent, informed by a range of long-run historical returns estimated over different time periods, as well as forward-looking estimates.[328] In 2013, we again used an MRP of six per cent, corroborated by Australian regulatory precedent and surveys of market practitioners.[329] For its 2016 Melbourne Water price review, the commission maintained an MRP of six per cent.[330]

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325 IPART, Review of our WACC method: Final Report Research, February 2018, p.59. The market indicators method adopted by IPART is to estimate, at each point in time, where in percentile terms the indicators lie on average relative to their historical distributions, and then apply this percentile to an assumed uniform distribution for the MRP. The indicators are: the risk-free rate, a term spread on Government bond yields, a measure of Government-corporate bond spread, and the market dividend yield. See SFG Consulting, Market Risk Premium, May 2013, pp.6-7, which is an attachment to IPART (2013).

326 AER, 'Better Regulation - Explanatory Statement: Rate of Return Guideline', December 2013, pp.93-95.

327 AER, 'APA VTS gas access arrangement 2018 to 2022, Attachment 3 – Rate of return', November 2017, p.81.

328 Essential Services Commission, 2008 Water Price Review Guidance Paper, March 2007, p.38.

329 Essential Services Commission, Price Review 2013: Regional Urban Water Businesses, Draft Decision - Volume I, March 2013, p.114.

330 Essential Services Commission, Proposed approach to Melbourne Water's 2016 water price review, February 2015, p.39.

In 2016, we introduced the PREMO pricing framework, under which the return on regulated equity of water businesses is based on our rating of their price submissions. Within this framework, the MRP is not set explicitly. From 2021, all Victorian water businesses are regulated under the PREMO framework.[331]

14.2.12. Implementation

Adjustment to the historical stock market data in the HER and Wright method

The series of historical market returns used in the calculation of the MRP in Australia under the HER and Wright methods represents year-on-year changes in the stock accumulation index (i.e., the annual with-dividend return of the market portfolio) for the Australian stock exchange.

For the period 1882 to 1961, the Sydney Stock Exchange (SSE) originally constructed the stock accumulation index using dividend yield series compiled retrospectively by Lamberton and the SSE. The Lamberton/SSE series is calculated as the unweighted average yield on dividend paying stocks. Compared to the value-weighted average yield, the unweighted average used by Lamberton/SSE is biased towards high yielding small stocks. The Lamberton/SSE series also excludes non-dividend paying shares, which further overstates the overall market yield.

Australian regulators have sought to correct this upward bias by adopting alternative data sources that adjust the Lamberton/SSE series. The main sources of adjusted data are the BHM and NERA consultancies.[332] BHM adjust the Lamberton/SSE yield by multiplying it by a constant 0.75 factor. Instead, the NERA adjustment factor varies over time, as it is based on NERA's own analysis of yield data for seven different quarters over the period in question (December 1891, December 1901, December 1911, December 1921, December 1931, December 1941, December 1951) and interpolation between those. NERA's adjustment factors are higher than BHM's until about 1930 and then slightly lower.

The decision of whether to consider the NERA adjustment is one of the key points of contention in the regulatory determination of the HER MRP in Australia. The strongest impact on MRP estimates of adopting the NERA adjustment is when using the longest data series considered by Australian regulators (1883 to present), with the NERA adjustment producing a considerably higher MRP

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[331] Except Goulburn Murray Water, a rural water corporation subject to a different regulatory framework and largely governed by Commonwealth rules.

[332] Tim Brailsford, John C. Handley, Krishnan Maheswaran, 'The historical equity risk premium in Australia: Post-GFC and 128 years of data', August 2011; NERA Economic Consulting, 'Historical Estimates of the Market Risk Premium', February 2015.

estimate, whereas estimates over shorter time periods are broadly similar across the two adjustments.

The AER (and regulators that follow the AER's MRP approach, such as the ACCC, ICRC, and OTTER) rely exclusively on the BHM adjustment. The AER's approach is based on the conclusion that the NERA adjustment, 'is not warranted or a clear, material improvement on the quality of the data'. A key argument that has been put forward in favour of the NERA adjustment is that NERA relies on its own analysis of yield data for seven quarters during the period of the adjustment, whereas BHM only check yield data for February 1966 directly to test their approach. The AER, however, noted that BHM use that one check as one method (of several) to confirm the reasonableness of their adjustment. Instead, the AER argues that NERA has been unable to reconcile its data back to the original Lamberton series and its analysis of seven data points also fails to provide a comprehensive view of the 75-year period it is meant to cover.

Other regulators have used an average of BHM and NERA data (ERA, ESCOSA). ERA acknowledged the uncertainty around the most appropriate adjustment, arguing that averaging would minimise any potential error from using either series alone. Exclusive reliance on the NERA adjustment (as proposed by the Port) does not appear to be supported by any recent regulatory decisions.

Comparison of the Port's implementation of HER method with other regulators

Table 14.2: Implementation of the HER method relative to the Port's tariff compliance statements

Entity	Market data	Period (start)	Averaging	Theta	Estimation
2017-18 tariff compliance statement					
Port (2017)	NERA	1883	Arithmetic	0.35	Point estimate.
AER (2016)	BHM	1883, 1937, 1958, 1980, 1988	Arithmetic and geometric	0.60	Considered a range.
ERA (2017)	Average of NERA and BHM	1883, 1937, 1958, 1980, 1988	Arithmetic and geometric	0.53	Average of highest geometric and lowest arithmetic mean.

Entity	Market data	Period (start)	Averaging	Theta	Estimation
QCA (2016b)	Not relevant[333]	1958	Arithmetic	0.56	
IPART (2013)[334]	BHM	1883, 1937, 1958, 1980, 1988	Arithmetic	0.65	Point estimate of 6%.
2018-19 tariff compliance statement					
Port (2018)	NERA	1883	Arithmetic	0.35	Point estimate
AER (2017)	BHM	1883, 1937, 1958, 1980, 1988	Arithmetic and geometric	0.60	Considered a range.
ERA (2017)	Average of NERA and BHM	1883, 1937, 1958, 1980, 1988	Arithmetic and geometric	0.53	Average of highest geometric and lowest arithmetic mean.
QCA (2016b)	Not relevant	1958	Arithmetic	0.56	
IPART (2018)	BHM	1883, 1937, 1958, 1980, 1988	Arithmetic	0.65	Point estimate of 6%.
2019-20 tariff compliance statement					
Port (2019)	NERA	1883	Arithmetic	0.35	Point estimate
AER (2018)	BHM	1883, 1937, 1958, 1980, 1988	Arithmetic	0.65	Based on most recent period, with regard to the two longest periods.
ERA (2018)	Average of NERA and BHM	1883, 1937, 1958, 1980, 1988	Arithmetic and geometric	0.60	Average of highest geometric and lowest arithmetic mean.
QCA (2018)	Not relevant	1958	Arithmetic	0.55	

[333] QCA, 'Cost of capital: market parameters - Final decision', August 2014, p. 56 commented on the NERA and BHM data. The QCA did not express a preference for one data source and reported results for both. However, this became a moot point as the QCA based its HER, Siegel, and Wright estimates only on the period starting in 1958 and noted that this is not affected by the choice of data.

[334] IPART's decisions in force throughout the review period maintained a HER estimate of 6 per cent. These decisions refer back to IPART's established practice and ultimately to a 2009 WACC paper, where IPART examined HER estimates based on BHM data for several periods (although the focus seems to have been placed mostly on the periods starting in 1883, 1937, and 1958). IPART concluded that its existing practice of setting an MRP in the range of 5.5 per cent to 6.5 per cent continued to be appropriate. See IPART, 'IPART's cost of capital after the AER's WACC review: Lessons from the GFC', November 2009, pp.36-40.

Entity	Market data	Period (start)	Averaging	Theta	Estimation
IPART (2018)	BHM	1883, 1937, 1958, 1980, 1988	Arithmetic	0.65	Point estimate of 6%.
2020-21 tariff compliance statement					
Port (2020)	NERA	1883, 1937, 1958, 1980, 1988	Arithmetic	0.41	Median of the five periods.
AER (2018)	BHM	1883, 1937, 1958, 1980, 1988	Arithmetic	0.65	Based on most recent period, with regard to the two longest periods.
ERA (2019)	Average of NERA and BHM	1883, 1937, 1958, 1980, 1988	Arithmetic and geometric	0.60	Average of highest geometric and lowest arithmetic mean.
QCA (2020)	Not relevant	1958	Arithmetic	0.55	
ESCOSA (2020)	Average of NERA and BHM	1883	Arithmetic and geometric	NA	Average of arithmetic and geometric.
IPART (2020)	BHM	1883, 1937, 1958, 1980, 1988	Arithmetic	0.65	Point estimate of 6%.

Note: The ACCC, OTTER, and ICRC rely on the AER's estimates of HER. ESCOSA (2015) does not provide details of their implementation of the HER method.

Comparison of the Port's implementation of the Wright method with other regulators

The Wright approach (named after the Professor Stephen Wright, who first proposed the method in Australia) assumes that the expected real return on equity for the market as a whole is relatively stable. Under the CAPM framework, this means that any fluctuations in the risk-free rate must be offset by corresponding changes in the MRP. The Wright approach can be represented as:

$$MRP = Expected\ market\ return - \ Risk\text{-}free\ rate$$

It suggests that the expected real return on equity is constant and therefore an unbiased estimate of the real expected market return, which can be estimated by the long-run average return on the market. The MRP is then estimated by converting the expected real return on equity to the nominal rate using an inflation forecast and then deducting the current nominal risk-free rate. A strict application of the Wright approach means that the MRP will vary inversely, and perfectly, with the risk-free rate.

This contrasts with historical excess returns. This approach seeks to estimate the MRP ex post by subtracting the risk-free rate from observed market returns each year over long periods (e.g., 50 to 100 years). These 'excess' returns can inform the ex-ante or expected MRP where it is assumed that investors expect historical returns to be repeated into the future. The validity of this assumption depends on whether the MRP is 'stable' over time.

The Wright approach is an alternative method of using this historical data. It gained prominence in regulatory discussions following the global financial crisis. Over this time, market analysts observed a 'flight to safety' from risky assets to safe assets like highly rated government bonds. This drove up the price and depressed yields on these bonds and other less risky assets. In contrast to heightened market uncertainty at the time, regulators were characterised as essentially setting a 'fixed' MRP because of their heavy reliance on historical excess returns. When combined with historically low risk-free rates in a CAPM framework, this 'fixed' MRP resulted in regulated returns on equity that were argued to be implausibly low and not reflective of required returns over the forward investment horizon.

The 'stability' of the MRP versus the expected market return is a key area of investigation and contention associated with the Wright approach.

As outlined above, we find limited support for the Wright method in Australian regulatory precedent. However, focusing only on implementation, the key area of the Port's approach that may not be 'well accepted' is the sole reliance on NERA adjusted data.

Table 14.3: Implementation of the Wright method relative to the Port's tariff compliance statements

Entity	Market data	Period (start)	Averaging	Theta	Inflation forecast	Point estimate
2017-18 to 2019-20 tariff compliance statements						
PoM (2017, 2018, 2019)	NERA	1883	Arithmetic	0.35[335]	2.50% (RBA midpoint)	
ERA (2017)	NERA and BHM	1883	Arithmetic	0.53	1.91% (10-yr forecast)	
QCA (2016b, 2018)	Not relevant	1958	Arithmetic	0.55, 0.56	2.50% (RBA midpoint)	
2020-21 tariff compliance statement						
PoM (2020)	NERA	1883, 1937, 1958, 1980, 1988	Arithmetic	0.41	2.50%	Median of the five periods.
QCA (2020)	Not relevant	1958	Arithmetic	0.55	2.42% (based on RBA midpoint and most recent inflation forecast)	

14.2.13. Dividend discount models

Review of the Port's implementation of IPART's DDM specifications

We found no obvious mathematical errors in the Port's implementation of the three IPART DDMs. However, we have identified some inconsistencies between the inputs to the models used by the Port and the inputs used by IPART.

We compare IPART's DDM estimates, which were used in its final metropolitan water pricing decisions (assuming an estimate of gamma of 0.33), against Synergies' corresponding DDM estimates.[336]

[335] We note that in 2017-18, the Port does not appear to have adjusted the Wright estimate for the value of imputation credits.

[336] IPART's MRP estimate assume a gamma estimate of 0.25. By contrast, the Port adopts a gamma estimate of 0.33. Therefore, we gross up the IPART MRP estimates using a gamma estimate of 0.33 in order to make like-for-like comparisons with the Port's estimates.

Table 14.4: Comparison of IPART and the Port's DDM estimates

Methodology	IPART required return on equity (gamma = 0)	IPART required return on equity (gamma = 0.33)	IPART risk-free rate	IPART MRP (gamma = 0.33)	Synergies MRP (gamma = 0.33)	Difference between IPART's and Synergies' estimate
Damodaran (2013)	10.09%	11.52%	0.77%	10.75%	10.90%	-0.15%
Bank of England (2002)	11.20%	12.78%	0.77%	12.01%	11.42%	+0.59%
Bank of England (2010)	10.29%	11.75%	0.77%	10.98%	10.81%	+0.17%
Average	**10.53%**	**12.02%**	**0.77%**	**11.25%**	**11.04%**	**+0.20%**

Source: IPART, Synergies report, Frontier Economics calculations.

There are several possible explanations for the differences between IPART's and the Port's estimates:

- The Port used Bloomberg data to obtain the inputs to the DDMs. By contrast, IPART uses data obtained from Refinitiv (formerly Thomson Reuters). It is likely that this has resulted in some differences between the Port's and IPART's estimates.
- As explained above, the Bank of England (2002) model assumes that dividends will grow at a constant rate over the first four years at a rate equivalent to equity analysts' forecast of the long-term growth rate for the stock market. IPART has advised the commission that when implementing this model, it obtains a 'Weighted Average Long Term Growth Forecast' for the ASX 200 index from directly from Refinitiv.[337] The Port constructed the assumed growth rate applied for the first four-year period using an average of:
  - the rate of growth implied by analysts' earnings per share forecasts for years 1 and 2
  - an estimate of the long-run growth rate
  - a rate for year 3 that is a linear interpolation between the assumed growth rate in year 2 and the assumed long-run growth rate.
- The growth rate assumed by the Port for the first four years was 7.17 per cent. The weighted average long-term growth forecast available from Refinitiv as of 31 March 2020 was slightly

[337] The relevant Refinitiv mnemonic for this data series is '@:AUSP200', and the relevant datatype is 'ALTMN'.

lower, 7.07 per cent. Adopting the Weighted Average Long Term Growth Forecast from Refinitiv would lower the Port's Bank of England (2002) estimate, all else remaining equal.

- As explained above, the Bank of England (2010) DDM assumes that:
  - Dividends will grow over year three in line with analysts' three-year ahead earnings per share forecasts. Bloomberg does not provide three-year ahead earnings per share forecasts, whereas these forecasts are available from Refinitiv. As the Port relied on Bloomberg rather than Refinitiv data, the Port adopted a growth rate of 7.15 per cent, where that rate was obtained by interpolating between the forecast rates for years two and four. The three-year ahead analyst earnings per share forecast implied by Refinitiv data, as of 31 March 2020, was somewhat higher, 7.42 per cent. This suggests that adopting the Refinitiv three-year ahead growth rate rather than the Port's interpolated rate for year three would have produced a higher Bank of England (2010) DDM estimate than was derived by the Port, all else remaining equal.
  - Dividends will grow over year four in line with analysts' long-term growth rate for the stock market. However, the Port did not have access to this forecast from Refinitiv. It therefore used the long-term constant growth rate of 5.50 per cent adopted by IPART as the year four growth rate. The Refinitiv Weighted Average Long-Term Growth Forecast as at 31 March 2020 was 7.07 per cent, which is materially higher than the year four growth rate assumed by the Port. Adopting the Refinitiv Weighted Average Long-Term Growth Forecast in place of the rate assumed by the Port would have produced a higher Bank of England (2010) DDM estimate than was derived by the Port, all else remaining equal.

- IPART adopted a risk-free rate estimate of 0.77 per cent (based on the annualised yield on 10-year Commonwealth Government Securities as of 31 March 2020, as published by the Reserve Bank of Australia) when implementing its DDMs for the final metropolitan water price decisions. By contrast, the Port adopted a risk-free rate estimate of 0.90 per cent. Adopting IPART's risk-free rate estimate would increase the Port's DDM estimates, all else remaining equal.

In summary, whilst the Port does not appear to have implemented the Damodaran and two Bank of England DDMs in the same way as IPART:

- The difference in the estimates is relatively small. For instance, the difference between the average DDM estimates produced by IPART and Synergies using data to 31 March 2020 is just 20 basis points.
- On average, the Port's estimates are lower (in this case) than IPART's. However, there is no reason to think that the Port's implementation of the IPART models would produce systematically lower estimates than would IPART's implementation of those same models.

Review of the Port's implementation of ERA's DDM specification

We found no obvious mathematical errors in the way the Port has implemented the ERA's DDM. To test whether the Port had implemented the model in a way that was consistent with the ERA's implementation, we populated the Port's version of the ERA's DDM with what we understand to be the inputs used in the 2018 and 2019 rail WACC decision. Doing so produced an MRP estimate of 7.70 per cent. This estimate is 50 basis points higher than the ERA's own estimate of 7.20 per cent in that decision.

We were unable to determine exactly why the estimate produced by the Port's version of the ERA's DDM was higher than that determined by the ERA itself in its 2018 and 2019 rail WACC decision.

Review of the Port's implementation of QCA's Cornell DDM specification

The 2020 Synergies report presented an MRP estimate, derived using the Cornell DDM, of 8.67 per cent.[338] The calculations provided by the Port to the Commission indicate that this estimate was derived using data to 31 March 2020. The latest QCA estimate using the Cornell model available to us was published in the QCA's February 2020 final decision in relation to Queensland Rail's 2020 draft access undertaking. In that decision, the QCA determined an estimate of the MRP using its Cornell model of 4.7 per cent, using data to November 2019.[339]

We found no obvious mathematical errors in the Port's version of the QCA's Cornell model. We therefore investigated whether the QCA's November 2019 Cornell estimate of 4.7 per cent could be replicated using the Ports' version of the QCA model. To do this, we obtained from the QCA the precise inputs that were used to populate the Cornell DDM that informed the February 2020 Queensland Rail final decision.

We were informed by the QCA that its approach to determining an overall Cornell DDM estimate is to derive six different Cornell estimates reflecting:

- Three scenarios for the long-run growth rate (i.e., 4.0 per cent, 4.6 per cent and 5.1 per cent)
- Two scenarios for the length of the convergence period to the long-run growth rate (i.e., 10 years and 20 years).

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[338] As noted above, the 2019 Synergies report did not make use of the Cornell DDM to derive the overall MRP estimate used in the 2019-20 tariff compliance statement.

[339] QCA, 'Queensland Rail 2020 draft access undertaking: Final decision', February 2020, pp.47-48.

We were advised by the QCA that the overall Cornell DDM estimate is then selected by taking the median value of these six different estimates.

Table 14.5 below presents the Cornell DDM estimates obtained using the Port's model and the inputs used in the QCA's February 2020 Queensland rail final decision.

Table 14.5: Cornell DDM estimates derived using the Port's QCA DDM model and QCA inputs

	Convergence period	
Long-run growth rate	10 years	20 years
4.0%	4.62%	3.51%
4.6%	5.47%	4.13%
5.1%	6.40%	4.82%

Source: Our analysis of Synergies model using inputs from the QCA.

The median of the six estimates presented in Table 14.5 is 4.7 per cent (rounded to one decimal place), which matches the Cornell DDM estimate adopted by the QCA in its February 2020 decision. We are therefore satisfied that the Port has implemented the QCA's Cornell DDM in a way that is consistent with the QCA's application of the model.

14.2.14. Consideration of the Port's response to the draft inquiry report

[redacted]

The Port's comment	Our response
[redacted]	[redacted]
[redacted]	[redacted]

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

14.2.15. References to Australian regulatory decisions

Shortened form	Reference
AER (2016)	AER, 'FINAL DECISION AusNet Services distribution determination 2016 to 2020: Attachment 3 – Rate of return', May 2016.
ACCC (2015)	Australian Competition and Consumer Commission, 'Public inquiry into final access determinations for fixed line services: Final Decision', 2015.
ERA (2017)	Economic Regulation Authority, 'Review of the method for estimating the Weighted Average Cost of Capital for the Regulated Railway Networks – Final Decision', 2015.
ESCOSA (2015)	ESCOSA, 'SA Water regulatory rate of return 2016 – 2020: Final report', 2015.
QCA (2016)	QCA, 'DBCT Management's 2015 draft access undertaking: Final Decision', 2016.
IPART (2013)	IPART, 'Review of WACC Methodology', December 2013.
OTTER (2015)	Office of the Tasmanian Economic Regulator (OTTER), '2015 Water and sewerage price determination investigation – Final report', part 4, 2015.
Industry Panel (2015)	Industry Panel, 'Substituted price direction: Regulated water and sewerage services', 2015.
AER (2017)	AER, 'DRAFT DECISION ElectraNet transmission determination 2018 to 2023: Attachment 3 – Rate of return', October 2017.
ACCC (2017)	ACCC, 'Australian Rail Track Corporation's 2017 Hunter Valley Access Undertaking: Draft decision', 2017.
IPART (2018)	IPART, 'Review of our WACC method', 2018.
AER (2018)	AER, 'Rate of Return instrument: Explanatory Statement', December 2018.
ERA (2018)	ERA, 'Final Gas Rate of Return Guidelines Explanatory Statement', 2018
QCA (2018)	QCA, 'Decision: Aurizon Network's 2017 draft access undertaking', December 2018.
IPART (2018)	IPART, 'Review of our WACC method: Final Report Research', February 2018.
OTTER (2018)	OTTER, '2018 Water and Sewerage Price Determination Investigation – Final Report', May 2018.
ICRC (2018)	Independent Competition and Regulatory Commission (ICRC), 'Regulated water and sewerage services prices 2018-23', May 2018.
ACCC (2019)	ACCC, 'Decision on Australian Postal Corporation 2019 price notification', December 2019.

Shortened form	Reference
ERA (2019)	ERA, 'Final Determination: 2018 and 2019 Weighted Average Cost of Capital: For the Freight and Urban Networks, and the Pilbara Railways', 22 August 2019.
ESCOSA (2020)	ESCOSA, 'SA Water Regulatory Determination 2020: Draft Determination: Statement of reasons', March 2020.
QCA (2020)	QCA, 'Final report: Gladstone Area Water Board Price Monitoring 2020-25 Part A: Overview', May 2020.
IPART (2020)	IPART, 'Review of prices for Sydney Water from 1 July 2020: Final report', June 2020.

14.3. The Port's methods for estimating beta and gearing have shortcomings

14.3.1. Beta

Beta measures the systematic risk associated with a particular investment. Beta of a firm not listed in an equity market can be calculated with reference to a set of comparator firms with similar risk characteristics. The Port estimated an asset beta of 0.7, which translates to an equity beta of 1.0 when combined with its benchmark gearing of 0.3. An equity beta of 1.0 implies that the Port has the same risk as the average firm in the market. We consider the Port's beta estimate reflects potential shortcomings in the Port's examination of its risk characteristics when selecting comparator firms.

14.4. Analysis of systematic risk

The selection of comparators with similar risk characteristics is central to the estimation of gearing and beta. We outlined our views on the relevant risk characteristics of the Port's prescribed services in our interim commentaries, including outlining that comparator firms should provide services that:

- relate primarily to the provision of wharfage and channel access services
- are provided by a port that predominantly derives revenue from services to container cargo, with a smaller share of bulk and non-bulk cargo
- are provided by a port in Australia

- are unlikely to face significant competition in the short to medium term.[340]

We acknowledge the challenges of establishing a comparator set given there are no publicly listed firms that have all of these characteristics.[341] We note the Port undertook a 'first principles' analysis of the extent to which a firm's net cash flows are sensitive to movements in the general economy. It stated that such an analysis, 'can inform an assessment of where beta might sit within a range'.[342] The seven specific factors it considered are:

- the nature of the product or customer, including availability of substitutes and income elasticity of demand
- pricing structure
- duration of contracts
- market power
- nature of regulation
- growth options
- operating leverage.

We examined the Port's systematic risk assessment in relation to the impact of regulation and the threat of competition since those are the most relevant factors.

14.4.1. Regulatory framework and systematic risk

A key issue with the Port's first principles analysis is that it finds that the nature of regulation is unlikely to have any mitigating effect on the Port's systematic risk. The Port comments it is 'likely to have its revenues significantly affected by levels of economic activity throughout the lease period'. The Port also notes that regulatory risk could be avoided through diversification, and it has not and is never likely to have long-term take-or-pay contracts in place, which could mitigate revenue variations due to changes in economic activity.[343]

These observations do not support the Port's assessment that the nature of regulation has no impact on its systematic risk. While the Port's revenues may indeed be significantly affected by levels of economic activity, the Port does not examine how elements of the regulatory regime will

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[340] Essential Services Commission, Statement of Regulatory Approach – version 1.0, December 2017, p.21.

[341] Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.6.

[342] Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.174.

[343] Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2018, pp.179-180.

alter this relationship. The avoidance of ‘regulatory risk’ and absence of take-or-pay contracts also have no bearing on whether other elements of the regulatory regime affect systematic risk.

In a separate report, Synergies notes that regulation in the form of price caps and revenue caps, by affecting a firm’s exposure to volume risk, affects systematic risk.[344]

The Port’s finding that the regulatory regime has no impact on its systematic risk contrasts with the views of other Australian regulators observed within similar regimes. For example, the AER[345] and QCA[346] have both noted that regulation tends to reduce systematic risk relative to unregulated settings. Some of the elements identified by the AER that are also present in the Port’s regulatory regime include:

- The periodic resetting of prices to align with revenue requirements. Noting this is currently constrained by the tariffs adjustment limit, the effect of this in reducing the Port’s risk is likely to be greater than other regulatory regimes as the pricing order allows the Port to choose the length of the regulatory period without constraints.[347] The Port has so far chosen regulatory periods of one year given uncertainties affecting expenditure forecasts, including new investment strategies, user preferences and service standards.[348]
- The ability of the Port to enter into direct contracts with users which could involve fixed amounts rather than volumetric charges that characterise its reference tariff schedule.
- Tariff rebalancing, including the ability to introduce new tariffs, which allow the Port to reduce its reliance on volumetric charges if it chooses.
- Prescribed asset values that are ‘rolled forward’, which significantly reduce the risk of asset stranding.
- Indexation of prices and the asset base by CPI, which protects against inflation risk.

Consistent with the findings of other regulators, we consider the presence of regulation will lower the systematic risk of the benchmark efficient entity providing the Port’s prescribed services compared to the same entity operating in an unregulated setting.

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344 Synergies Economic Consulting, ‘The Rate of Return to Apply to ARTC's Hunter Valley Coal Network: Update’, October 2016, p.74.

345 AER, ‘Draft rate of return guidelines: Explanatory Statement’, July 2018, pp.104-112.

346 QCA, ‘Draft decision - Aurizon Network's 2017 draft access undertaking’, December 2017, pp.75; 92-94.

347 For example, the National Electricity Rules require regulatory periods to be at least five years, and the National Gas Rules contain a ‘general rule’ for five-year periods.

348 Port of Melbourne, ‘2018-19 Tariff Compliance Statement: General Statement’, May 2018, p.14.

14.4.2. Competition and systematic risk

In our review, we consider the two sources of competition identified by Synergies: the future development of a second container port, and existing substitution towards other ports for certain types of traffic.

Development of a second container port

Synergies considers that the main differentiator of the Port's systematic risk to the average of the sample is the prospect of competition from a second Victorian container port.[349] It stated:

> Whilst clearly not imminent, the prospect of the development of a new port has material implications for PoM with respect to its return on future investments. PoM must make investment decisions across long-term horizons, and any change in demand for services will affect these investment decisions.

As alluded to by Synergies, the Port is eligible to be compensated in the event a second Victorian port establishes itself in the next 15 years. The Port Growth Regime involves payment to the Port in compensation for trade and associated revenues diverted to a second state-sponsored port.[350] This regime was developed by the Victorian Government as part of the lease transaction in reflection of there being greater value in incentivising investment in existing port capacity and deferring 'greenfield' capacity investment for as long as possible.[351]

There are other related provisions in the *Port of Melbourne Lease Transaction Act 2016* (Vic) and the PMA that protect the interests of the Port in the advent of a second container port:

- Any state-sponsored port operator is constrained in charging prices below a 'competitively neutral price' under section 49V of the PMA.
- The Port can also initiate inquiries into the pricing of a state-sponsored port operator under section 49Y of the PMA, which could involve the commission determining minimum prices that operator must charge.
- The Port may seek ministerial approval or commission certification of capacity expansions under sections 66 and 68 of the *Port of Melbourne Lease Transaction Act 2016* (Vic). Such certified expansions are recognised when determining payments under the Port Growth Regime.

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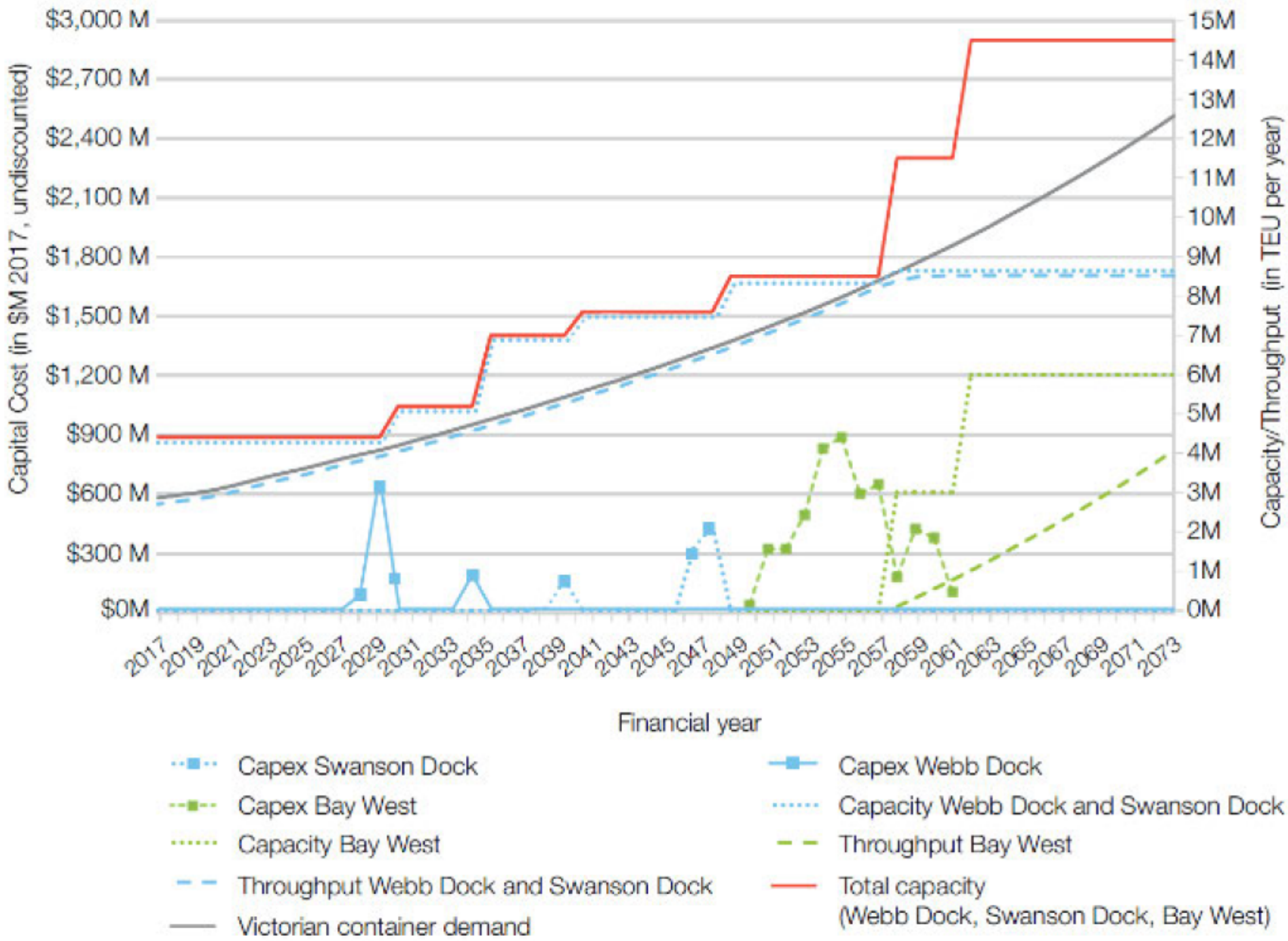
[349] Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.175.

[350] Delivering Victorian Infrastructure (Port of Melbourne Lease Transaction) Act 2016 (Vic), section 61.

[351] Victorian Government, 'Select Committee Inquiry Submission', September 2015, p.25.

We disagree with Synergies that the Port Growth Regime provisions are a significant barrier to the construction of a second port, and that their expiry after 15 years increases the risk of competition. Prospects for a second port depend on demand growth and the exhaustion of the Port's natural container capacity. As noted by Synergies, Infrastructure Victoria's recommendations to the government were that it would not be cost effective for a second major container port to begin operations until 2055, following investments that increase the Port's capacity to eight million 20-foot equivalent units.[352] This is around 40 years into the Port's 50-year lease.

Figure 14.2: Infrastructure Victoria's projections for Port of Melbourne (Webb and Swanson docks) and the second container port (Bay West)



Source: Infrastructure Victoria, 'Advice on securing Victoria's ports capacity', May 2017, p. 167.

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[352] Infrastructure Victoria, 'Advice on securing Victoria's ports capacity', May 2017, p.4.

Existing competition

In terms of existing competitive pressures, Synergies noted:

> There is clear evidence of contestability given that PoM has lost trade to Adelaide (import containers), Geelong (breakbulk) and Port Botany (agricultural exports). Moreover, PoM competes with Geelong in relation to import crude and refined oil, breakbulk cargo, bulk grain exports, dry bulk import (cement, soda ash and fertiliser). Nevertheless, a significant proportion of PoM's volumes are not contestable, with 87% and 54% of imported and exported containers, respectively, destined for or originating from the Melbourne metropolitan region.[353]

Synergies highlights the prospect of a second port in Melbourne may reduce the Port's market power. Although assessing the relative market power of the Port compared to comparators is difficult there is evidence that some comparators face more direct competition than the Port. For example, Piraeus Port Authority, MMC Corporation and Westports Holdings all face intra-port competition where there is more than one container operator within the same port area.

Overall, we consider that the threat of competition is unlikely to materially affect the benchmark rate of return.

14.5. The merits of including airport and rail comparators

As noted above, Synergies applied first principles analysis in considering where the Port's equity beta might sit relative to the other comparators.[354] Synergies also stated that this analysis formed the basis of its decision to include listed airports and railroads in its sample of comparator firms.[355] The Port's justification for reliance on airports and railroads is limited to the following statements from its 2018-19 tariff compliance statement:

> We have also included freight railroad companies in our sample as there are a number of publicly listed firms in this sector with similar infrastructure characteristics and demand drivers to ports. Additionally, major city airports have similar infrastructure characteristics to ports given their (albeit more limited) exposure to domestic cyclical economic conditions, as well as from an operating leverage (high fixed costs in their total cost base) and investment

353 Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.175.

354 Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.94.

355 Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.6.

> perspective. The strong fixed capital cost and associated cash flow risk exposures represent close comparators from a gearing and beta perspective.[356] […]
>
> Freight railroads (in particular, North American Class I railroads) are considered a primary comparator set due to their freight-focussed business model, strong market position and below rail infrastructure services.
>
> Additionally, we included airports in the sample. Despite having different demand drivers to ports, (less driven by cyclical economic drivers), they were close comparators to ports in their core aeronautical infrastructure-related service [357]

Further, Synergies comments that other regulators have included port comparators when assessing betas for railroads as a case for considering railroads as primary comparators for the Port.

We consider that the decisions of other regulators in relation to rail businesses do not support a view that railroads and ports are necessarily good comparators, with recent freight rail decisions either excluding or placing very little weight on ports. Our analysis further suggests that while there are some broad similarities, there are some clear points of difference between the Port and North American railroads which mitigate against their inclusion as comparators.[358]

We consider a more methodical application of the factors affecting systematic risk in comparative industries is justified. If not these factors, Synergies could have explored the relevance of airports and railroads with respect to other factors it outlined for the benchmark efficient entity.[359] The choice of airports and rail appears to be based on them being ‘freight focused’. In this context, the decision to include airports is questionable, given airports only derive a small proportion of revenues from freight.[360] Even so, and as noted by Synergies, the correlation between demand for aeronautical infrastructure-related services and general economic activity is different than that for port services, but is presumed to be immaterial without any analysis.

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[356] Synergies Economic Consulting, ‘Determining a WACC estimate for Port of Melbourne’, May 2018, p.50.

[357] Synergies Economic Consulting, ‘Determining a WACC estimate for Port of Melbourne’, May 2018, p.91.

[358] In addition to operation in a different industry sector and different jurisdiction, US and Canadian railways are vertically integrated and are not landlord-type operators unlike the Port. They also face higher competition, have slightly lower operating leverage and the proportion of bulk freight is greater than containerised freight. Additionally, the terms and conditions of their contracting arrangements tend to be considerably varied whereas the Port’s charges are predominantly traffic-based.

[359] Synergies Economic Consulting, ‘Determining a WACC estimate for Port of Melbourne’, May 2018, p.49.

[360] Europe Economics, ‘Critique of Commerce Commission’s Asset Beta Analysis’, July 2010, p. 14; Airports Council International 2013, ‘Air Cargo Guide 2013’, p.9.

14.5.1. The sufficiency of comparators in ports and marine services

Synergies stated that 'the [commission] noted the need for trade-offs when sourcing comparators from other sectors (such as rail and airports)'.[361] This misrepresents the view in our Statement of Regulatory Approach, that the Port may need to use comparator firms that supply services which do not meet the characteristics we outlined.[362] Synergies appears to have traded off these characteristics for the sake of broadening its data set. Synergies stated:

> …in practice, there are few listed port entities that provide comparable services to construct a sample that reliably estimates a benchmark gearing ratio and equity beta for the BEE. Hence, this has required us to identify transport entities outside of the Australian and international port sector with a comparable risk profile to PoM's Prescribed Services.[363]

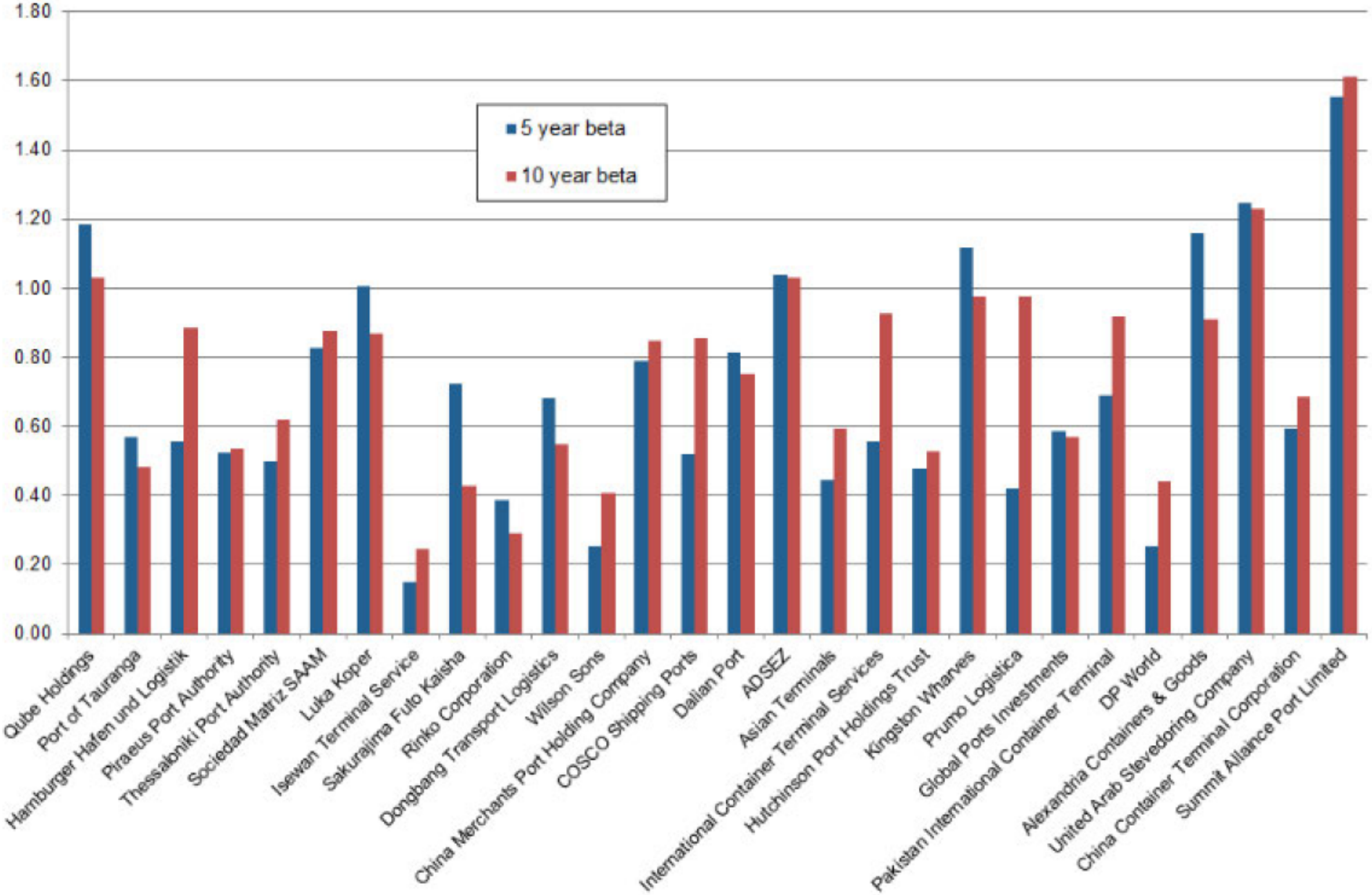
Synergies found 28 comparators in the 'marine ports and services' category that it regarded were suitable for inclusion. The five-year and 10- year asset betas are contained in Figure 14.3 below. It is not apparent from Synergies' analysis that a reliable beta estimate can be derived from these firms, including the subset of eleven firms that are identified as port owners or operators.

[361] Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.47.

[362] Essential Services Commission, Statement of Regulatory Approach – version 1.0, December 2017, p.21.

[363] Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.49.

Figure 14.3: Five-year and 10-year asset betas for 'marine ports and services' firms



Source: Commission analysis using Synergies' data.

Synergies stated:

> …many of the entities in the Marine Ports and Services category operate primarily as terminal operators or stevedores and do not provide the core infrastructure service that PoM provides.
>
> Further, whilst terminal operators and PoM may have similar market exposure, terminal operators generally have lower fixed capital costs and higher variable costs within their total cost base than a landlord port such as PoM. As discussed in our first principles analysis, this means that these terminal operators' earnings will be less sensitive to sales volumes than PoM.
>
> Consequently, whilst PoM's risk profile is not identical to several of these businesses, there is a strong overlap in market exposure and demand drivers between the entities comprised within the Marine Ports and Services classification and PoM, which warrants their inclusion in our comparable companies set.[364]

In terms of Synergies' first principles analysis, its concerns about the presence of terminal operators and stevedores in this sample relates to one of the seven factors examined (i.e., operating leverage). The extent to which this factor is dominant in determining the Port's systematic risk is not clear.

Overall, it appears that Synergies has widened its dataset with the implicit aim of producing a more reliable result, with minimal consideration of whether the included firms reflect comparable risk. As outlined above, the presence of regulation will reduce the systematic risk of the benchmark efficient entity in the Port's context relative to unregulated firms providing the same services. Synergies's point regarding the Port's operating leverage relative to comparator firms may or may not offset this effect.

14.6. Use of international comparator firms

Synergies noted challenges in finding suitable comparator firms in Australia and the need to refer to international comparators.[365] While we understand the reasons for this approach, we have identified several drawbacks in using beta estimates for international firms.

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[364] Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.50.

[365] Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.50.

These estimates reflect the industry composition of the particular index used to approximate the market portfolio against which covariance of a firm's returns are measured. That is, the observed variability of a foreign firm's returns relative to the market index of its country may not accurately reflect how those returns would vary against the market index in the country where regulated services are provided i.e., in Australia. The returns for each market portfolio will also reflect the degree of leverage underlying that portfolio which may differ between countries. Other factors to consider (that are more relevant to gearing estimates) are differences in taxation and bankruptcy arrangements in different countries.

Other regulators have faced the challenges of not being able to draw on many, or any, comparator firms in Australia and in the same industry as the benchmark entity.

In dealing with this challenge for rail entities, the ERA did not compile a large dataset across different countries and industries. Rather, a limited set of comparators was selected following detailed consideration of relative risk characteristics, with importance placed on firms residing in Australia or a similar developed country. For example, the ERA's approach for Brookfield Rail involved the selection of eleven comparators from the United States, Canada, Australia and New Zealand.[366] More recently in the case of energy, the ERA considered that it was preferable to limit its sample to only four comparator firms than to include international comparators that may have fundamentally different risks.[367]

The QCA, in the case of Aurizon, referred to a relatively large number of international comparators in its draft decision. The comparator firms were largely limited to the same countries as those for the ERA as mentioned above. The QCA's decision involved a comprehensive first principles assessment based on factors like those as identified by Synergies, supported by quantitative analysis of different industry returns relative to GDP growth.[368] The QCA's decision is notable as it found that rail businesses in North America were not appropriate comparators, while regulated energy and water businesses were.[369]

These examples underline how a more comprehensive assessment of comparable risk might assist Synergies in overcoming the apparent lack of suitable comparators. We note that Synergies, in examining the overall reasonableness of its WACC estimate, made some detailed observations

[366] ERA, 'Review of the method for estimating the Weighted Average Cost of Capital for the Regulated Railway Networks - Final Decision', September 2015, pp.28-30.

[367] ERA, 'Draft Explanatory Statement for the Rate of Return Guidelines (2018)', June 2018, p.31.

[368] QCA, 'Draft decision Aurizon Network's 2017 draft access undertaking', December 2017, pp.91-120.

[369] QCA, 'Draft decision Aurizon Network's 2017 draft access undertaking', December 2017, p.89.

on risk for rail entities, i.e., ARTC Interstate and Pilbara Railways.[370] While these firms are not listed, such detailed analysis of a limited number of firms may be preferable to Synergies's approach of drawing observations from firms across three different industry classifications in around 30 different countries.

14.7. Use of statistical significance filter

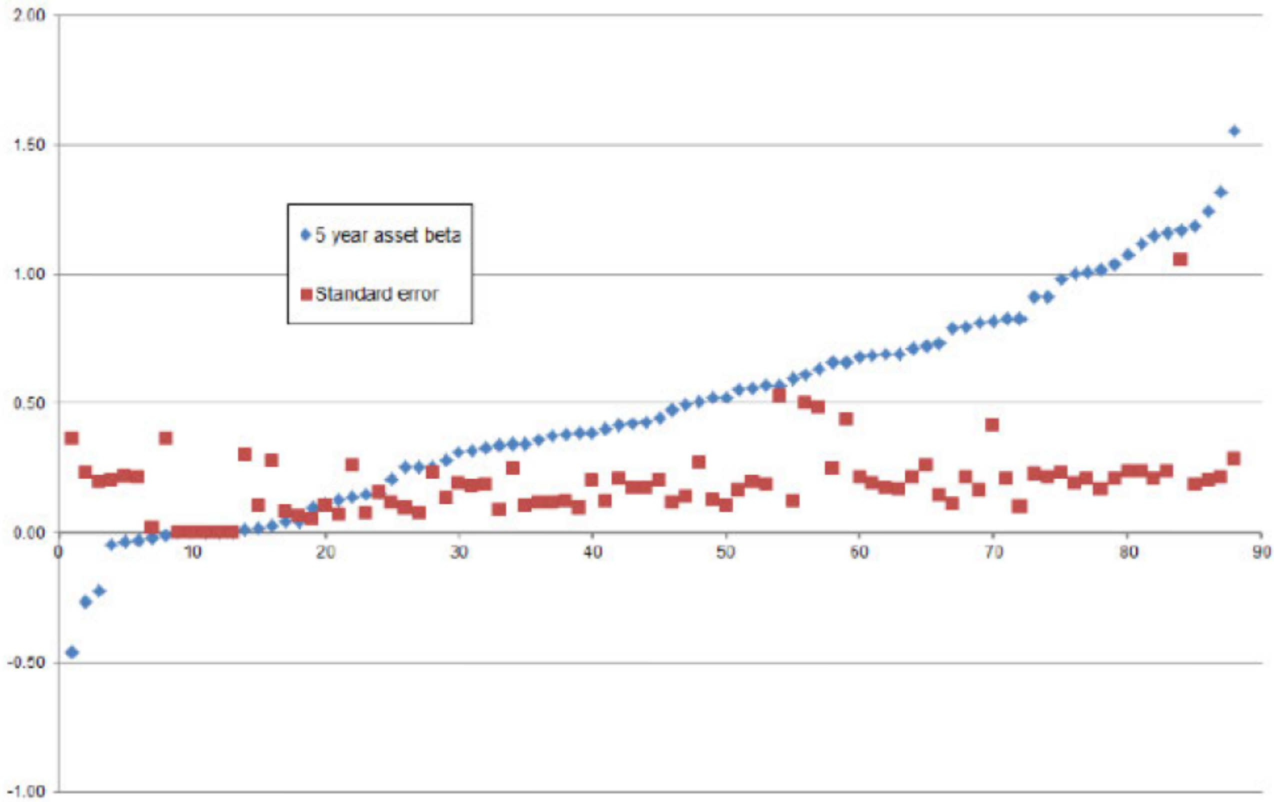
For the 2017-18, 2018-19 and 2019-20 tariff compliance statements, the Port applied statistical filters that excluded any comparators with beta estimates that were not found to be statistically significant (i.e., with a t-statistic less than two) or that exhibited low explanatory power (i.e., a r-squared value less than 10 per cent).

The Port gave particular emphasis to the statistical significance of the estimates, over their explanatory power. Whilst some regulators have had regard to the statistical significance and/or explanatory power of beta estimates, we found that removing the filter, which excludes estimates not found to be statistically significant to the five per cent level, and removing the rule that excludes estimates with low r-squared values, tend to lower the average beta estimates. This is because some of the additional comparator firms will have low systematic risk.

The beta estimates for these firms will be closer to zero, but in statistical terms not significantly different from zero (suggesting the estimate is not reliable). In addition, firms with higher systematic risk but the same statistical confidence in their beta estimate would still be included in the Port's list of firms. This is illustrated in Figure 14.4 below, which plots the five-year asset beta estimates and associated standard errors for the firms included in Synergies' analysis for the 2018-19 sample as well as those excluded on statistical grounds.

[370] Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2018, pp.140-144.

Figure 14.4: Five-year asset beta estimates and associated standard errors of firms in Synergies' 2018-19 comparator sample



Source: Commission's internal analysis based on 2018-19 Synergies sample.

As the figure illustrates, some firms had very low asset beta estimates, and others had very high asset beta estimates. However, the standard errors of the estimates did not appear to vary much across firms. Therefore, we consider that the Port's statistical significance test was likely to exclude those firms with the lowest betas. This, in turn, would tend to push up the overall beta estimate.

Overall, we conclude that the Port's use of statistical filters in the years 2017-18 to 2019-20 was not appropriate. It should be noted that the Port discontinued the use of statistical filters for the purposes of the 2020-21 tariff compliance statement.

14.8. Sensitivity to return specification

We find both Synergies's and Incenta's estimates of asset beta using their port comparator samples are sensitive to the return specification employed. The return specification refers to the period over which returns are measured. For example, a weekly beta uses returns of the index and stock price data over weekly intervals.

A related issue is the 'reference day' used for the calculation interval. For example, weekly returns can be calculated using the price at the end of each week, but this implicitly assumes that the appropriate weekly return interval is Friday to Friday. As we noted in our review of other Australian regulatory decisions, a commonly accepted alternative is to separately estimate the beta for each weekly return interval (Monday to Monday, Tuesday to Tuesday etc.) and then take the average. We refer to this as Weekly AD.

We find that for Synergies' and Incenta's samples, monthly returns produce a higher asset beta estimate. The table below provides a comparison of the different approaches. Incenta does not provide estimates using weekly returns but Synergies' estimates using weekly returns are also below their monthly estimate. Table 14.6 below provides the average beta estimate by return specification.

Table 14.6: Port of Melbourne sample – asset beta impact of return specification

Estimate	2016-17	2017-18	2018-19	2019-20	2020-21
Five-year					
Synergies sample					
Synergies (monthly)		0.69	0.72	0.76	0.76
Synergies (weekly)		-	-	-	0.74
ESC (monthly)	0.74	0.75	0.74	0.78	0.78
ESC (weekly)	0.69	0.66	0.65	0.68	0.75
ESC (weekly AD)	0.69	0.68	0.66	0.69	0.78
Incenta sample					
Incenta (monthly)		-	-	-	0.85
ESC (monthly)[371]		-	-	-	0.84
ESC (weekly AD)		-	-	-	0.80
10-year					
Synergies sample					
Synergies (monthly)		0.74	0.75	0.72	0.77
Synergies (weekly)		-	-	-	0.78
ESC (monthly)	0.78	0.78	0.76	0.79	0.73
ESC (weekly)	0.79	0.75	0.69	0.76	0.69
ESC (weekly AD)	0.78	0.76	0.73	0.77	0.70
Incenta sample					
Incenta (monthly)		-	-	-	0.86
ESC (monthly)		-	-	-	0.87
ESC (weekly AD)		-	-	-	0.77

Source: Commission's internal estimates. Note: ESC refers to the commission.

[371] Using Incenta's port sample, data cutoff date was 31/12/2019.

14.9. Consideration of the Port's response to our draft inquiry report

The Port provided comments on our draft inquiry report on asset beta and gearing. Our consultant CEPA has reviewed the Port's comments. We have accepted CEPA's views and addressed the Port's comments below.

Beta

14.9.1. Construction of the comparator sample

[redacted]

14.9.2. Size of the comparator sample and country filter

[redacted]

[redacted]

[redacted]

[redacted]

14.9.3. Market capitalisation and liquidity filters

[redacted]

- [redacted]
- [redacted]

[redacted]

[redacted]

14.9.4. Frequency

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

14.9.5. Other estimation issues

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Gearing

The Port considers our gearing does not represent the gearing of a benchmark efficient entity. We disagree with the Port's comment for the reasons provided in earlier sections about selection of comparators.

The Port's submission argues that the Port has used acquisition gearing to determine the gearing range for the benchmark efficient entity. This is consistent with our observation of the Port's approach described in Table 5.9 of this report, and we also accept that regulators use a wider range of evidence than simply using the gearing of a comparator sample. Therefore, it is possible that a regulator considering the Port might consider acquisition data as part of the evidence that it reviewed.

With regard to using long-term debt, we have not found evidence that adopting long-term debt and considering only investment grade comparators could be considered 'well accepted'. However, we agree with the Port's conclusion that these factors have an immaterial effect on the gearing estimate.

Overall, we do not consider that the regulatory evidence presented by the Port supports the view that its specific approach is 'well accepted.' On the other hand, we note that its proposed benchmark gearing level is within (at the upper end of) the range that we have suggested.

14.10. The Port's gamma

14.10.1. What is gamma?

The Australian dividend imputation tax system allows corporate tax to be attributed to resident equity investors through a tax credit that eliminates the double taxation of returns given from a company to its shareholders. Dividends can be paid out with 'imputation' or 'franking' credits attached, which can be used by Australian investors to offset their personal income tax, or to claim a tax refund. Gamma (γ) measures the value of these imputation credits in the context of assessing benchmark tax liabilities and the rate of return in regulatory building block frameworks, including under the Port's pricing order.

Under regulation, the impact of tax and imputation credits can be accounted for as a separate building block item or when calculating the rate of return. The Port's pricing order requires the latter. In this 'pre-tax' framework, the post-tax return on equity is 'grossed up' to reflect that tax needs to be paid by equity holders out of the returns they receive:

$$WACC_{pre-tax} = \frac{return\ on\ equity_{post-tax}}{(1 - tax\ rate \times (1 - \gamma))} \times \frac{E}{V} + Return\ on\ debt \times \frac{D}{V}$$

where 'D' is the value of the firm's debt finance, 'E' is the value of equity finance and 'V' is the total firm value.

The presence of any tax benefit from imputation credits (γ) means that equity investors do not need to be compensated as much when determining their return on equity. That is, equity investors would accept a lower return if they are compensated with imputation credits. Therefore, a higher value of gamma results in a lower WACC and vice versa.

Gamma can take a value of between zero and one. At one extreme, a gamma value of one means that all imputation credits are paid to shareholders and can be fully redeemed by them. At the other extreme, a gamma value of zero means imputation credits are not paid out or cannot be redeemed.

Regulatory precedence

We consider that the Australian regulatory approaches are the most appropriate source for identifying 'well accepted' approaches for the estimation of gamma since imputation credit systems are used in only a few jurisdictions.

Table 14.7: Regulatory precedent – Gamma

Regulator	Methodology	Distribution Rate (F)	Utilisation Rate (θ)	Gamma
2017-18 tariff compliance statement				
AER (2016)[376]	Utilisation approach • F – Primary reliance on ATO statistics, some regard to financial accounts • θ – Significant reliance on equity ownership, some reliance on ATO statistics, less reliance on implied market value	0.7 – 0.75	0.38 – 0.68	0.4
ACCC (2015)	Utilisation approach • F – Telstra's historic payout ratio • θ – Followed earlier AER equity ownership estimate	0.95	0.45 – 0.68	0.45

376 See AER, 'AusNet Services distribution determination final decision AusNet Services distribution determination 2016 to 2020: Attachment 4 – Value of imputation credits', May 2016, pp.32-36.

ERA (2015)	Utilisation approach • F – ATO statistics • θ – Most weight on equity ownership, less weight on ATO statistics, least weight on implied market value	0.7 – 0.8	0.35 – 0.69	0.4
ESCOSA (2015)	Regulatory precedent[377]	-	-	0.5
IPART (2013)	Utilisation approach • F – ATO statistics • θ – Implied market value	0.7	0.35	0.25
OTTER (2015)	Adopted the same value as the preceding regulatory period, approach not available	-	-	0.5
QCA (2016b)	Utilisation approach • F – Financial accounts • θ – Equity ownership, with limited consideration of ATO statistics and implied market value	0.84	0.56	0.47
2018-19 tariff compliance statement				
AER (2017)	Utilisation approach • F – Primary reliance on ATO statistics, some regard to financial accounts • θ – Significant reliance on equity ownership, some reliance on ATO statistics, less reliance on implied market value	0.7 – 0.75	0.38 – 0.68	0.4
ACCC (2017)	Draws on AER and QCA precedent (both use the utilisation approach)	-	-	0.4
ERA (2017)	Utilisation approach, follows ERA (2015)	-	-	0.4
ESCOSA (2015)	Regulatory precedent	-	-	0.5
IPART (2018)	Utilisation approach	0.7	0.35	0.25

[377] ESCOSA's 2015 gamma estimate dates back to a 2012 decision on the rate of return for SA Water. ESCOSA considered a range of evidence based on the utilisation approach. However, ESCOSA ultimately decided that given the uncertainties around appropriate estimates it was more appropriate to adopt a value consistent with other water pricing determinations in Australia. Reviewing a range of contemporaneous determinations of gamma by IPART, ESC, ICRC, QCA ERA and AER, ESCOSA found that these regulators had consistently adopted a gamma value of 0.50, or a range incorporating 0.50. On this basis, ESCOSA concluded that 'a value of 0.50 for imputation credits is currently the most appropriate value given a lack of consensus within the academic literature and the limitations of empirical estimates of gamma'. The decision did not specify underlying values for the distribution and utilisation rates. ESCOSA, 'Advice on a regulatory rate of return for SA Water: Final Advice', February 2012, p.49.

	• F – ATO statistics • θ – Implied market value			
OTTER (2015)	Adopted the same value as the preceding regulatory period, approach not available.	-	-	0.5
QCA (2016b)	Utilisation approach • F – Financial accounts • θ – Equity ownership, with limited consideration of ATO statistics and implied market value	0.84	0.56	0.47
2019-20 tariff compliance statement				
AER (2018)	Utilisation approach • F – Financial accounts • θ – Equity ownership	0.9	0.65	0.585
ACCC (2017)	AER and QCA precedent (both use the utilisation approach)	-	-	0.4
ERA (2018)	Utilisation approach • F – Financial accounts • θ – Equity ownership	0.9	0.6	0.5
ESCOSA (2015)	Regulatory precedent	-	-	0.5
IPART (2018)	Utilisation approach • F – ATO statistics • θ – Implied market value	0.7	0.35	0.25
ICRC (2018)	AER precedent prior to AER (2018)	-	-	0.4
OTTER (2018)	AER precedent prior to AER (2018)	-	-	0.4
QCA (2018)	Utilisation approach • F – Financial accounts • θ – Equity ownership.	0.88	0.55	0.484
2020-21 tariff compliance statement				
AER (2018)	Utilisation approach • F – Financial accounts • θ – Equity ownership	0.9	0.65	0.585
ACCC (2019)	Follows AER (2018)	0.9	0.65	0.585
ERA (2019)	Utilisation approach • F – Financial accounts	0.9	0.6	0.5

	• θ – Equity ownership			
ESCOSA (2020)	Regulatory precedent[378]	-	-	0.5
IPART (2018)	Utilisation approach • F – ATO statistics • θ – Implied market value	0.7	0.35	0.25
ICRC (2018)	AER precedent prior to AER (2018)	-	-	0.4
OTTER (2018)	AER precedent prior to AER (2018)	-	-	0.4
QCA (2020)	Utilisation approach • F – Financial accounts • θ – Equity ownership.	0.88	0.55	0.484

Note. The Industry Panel's 2015 Substituted Price Direction is not included in this table as a value for gamma does not appear to have been specified as part of that decision.

A review of Table 14.7 allows to reach the following conclusions:

Utilisation approach based on Equity ownership estimates

Over the review period, only gamma estimates based on the utilisation approach using equity ownership estimates are considered 'well accepted' amongst Australian regulators. The Port's estimates of gamma based on equity ownership approach are reproduced in Table 14.8 below.

Table 14.8: The Port's equity ownership estimates of gamma

	2017-18	2017-18	2018-19	2019-20	2020-21
Gamma (equity ownership)	0.45	0.45	0.45	0.50	0.50
Distribution rate	0.7	0.7	0.7	0.7	0.8
Utilisation rate	0.643	0.643	0.643	0.714	0.625

Note. In the 2017-18 tariff compliance statement, the Port assumed the same gamma value for the 2016-17 and 2017-18 years. The utilisation rate (theta) is derived from the assumed gamma value and the distribution rate stated by the Port.

378 In its 2020 decision for SA Water, ESCOSA accepted SA Water's proposal to use a value of 0.50 for gamma. See ESCOSA, 'SA Water Regulatory Determination – Draft Determination: Statement of reasons', March 2020, p.179. We have not identified more detailed analysis by either SA Water or ESCOSA, and therefore assume the value is maintained from ESCOSA's 2015 determination, based on their 2012 review of regulatory precedent on gamma.

The Port's zero gamma approach

In the following section, we discuss the Port's rationale for adopting a zero-gamma approach, and the supporting evidence it presented to justify assigning a weight in estimating its overall gamma estimate.

Our review of the Port's academic evidence

The Port argues that academic publications support a zero value for gamma where the 'marginal investor' is not an Australian taxpayer and cannot realise any value from the imputation credits that are distributed to them.[379] The Port further proposes that the marginal investor is very likely to be a non-Australian taxpayer. In support of this view, they cite academic studies which find little evidence that imputation credits affect asset prices. The Port considers this consistent with the view that the marginal investor does not value imputation credits.[380] They also note that foreign equity accounts for just under half of the total equity holdings in major Australian transport and energy infrastructure.[381] Overall, the Port finds that:

> it cannot be concluded that the marginal investor in an efficient Australian benchmark efficient entity is anything but a foreign investor who places no value on imputation credits.[382]

The academic evidence presented by the Port may not be suitable for the purpose of calculating the required revenue for a benchmark efficient entity.

Firstly, the Port's arguments rely on the presumption that there is broad agreement within the academic community that a single marginal investor sets asset prices. The academic publications that the Port references are consistent with this perspective.[383] However, we do not agree that it is 'well accepted'. For example, Handley (2014)[384] and Lally and van Zijl (2003)[385] both consider that in equilibrium, the value of theta will be determined by the weighted average of the utilisation rates of all investors in the market, where the weights are based on their levels of wealth and risk

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[379] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2017, pp. 85-95. Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2017, p.230.

[380] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2017, pp.85-86.

[381] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2017, p.95.

[382] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2017, p.95.

[383] For example, Siau, K-W., Sault S. J. and Warren G. K., 'Are imputation credits capitalised into stock prices?', Accounting and Finance 55, 2015, p. 243 and Cannavan, D., Finn, F. and Gray, S., 'The value of dividend imputation tax credits in Australia', Journal of Financial Economics 73, 2004, p.168.

[384] Handley, J., 'Advice on the return on equity', University of Melbourne, 2014.

[385] Lally, M & Van Zijl, T., 'Capital gains tax and the capital asset pricing model', Journal of Accounting and Finance, 2003.

aversion. In their 2015 review of the academic literature on the value of imputation credits, Ainsworth et al (2015) find that 'whether prices are set by a marginal investor, or by aggregation across investors, is an open question'.[386]

Secondly, the Port contends that empirical academic studies consistently find that the value of gamma reflected in asset prices is zero. However, the Port's review of the literature on this topic appears to exclude several studies, including some that find non-zero values for gamma.[387] Further, the Port also refers to the results of dividend drop-off studies conducted by academics which indicate that the value of gamma is not zero,[388] but these are not discussed in the Port's synthesis of the academic evidence that supports the use of a zero-gamma value. Overall, a more balanced interpretation of the evidence would conclude that estimates of gamma reported in the academic literature vary and are not generally accepted to be zero.

Finally, we do not accept that a zero-gamma value is 'well accepted' by the academic community for the purpose of calculating a revenue requirement for a benchmark efficient entity. This is because the purpose of these studies has been to estimate the impact of imputation credits on asset prices, not to estimate the value of imputation credits to investors in a benchmark efficient entity. Some of these studies highlight – albeit indirectly – that adopting a zero-gamma value for the latter purpose may be problematic. For example, Siau et al. consider it likely that imputation credits are not reflected in share prices because the marginal investor does not value them. This means that 'prices would then be lower and expected returns higher for stocks paying imputation credits than if [imputation credits] were priced'.[389] The authors go on to say that:

> if market returns are not lowered by the presence of imputation credits, then investors who benefit from dividend imputation may capture the full value of their imputation credits as a bonus or 'consumer surplus' over and above the market clearing rate of return – they can 'have their cake and eat it too'.[390]

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[386] Ainsworth, A., Partington, G., and Warren, G., 'Do Franking Credits Matter? Exploring the Financial Implications of Dividend Imputation', Centre for International Finance and Regulation (CIFR) Working Paper No. 058/2015, June 2015, pp.7-18.

[387] Ainsworth, A., Partington, G., and Warren, G., 'Do Franking Credits Matter? Exploring the Financial Implications of Dividend Imputation', Centre for International Finance and Regulation (CIFR) Working Paper No. 058/2015, June 2015, p.18.

[388] For example, in Synergies (2020), dividend drop-off studies are reported in Section 10.2.3, while other academic evidence is reviewed separately in Section 10.2.5.

[389] Siau, K-W., Sault S. J. and Warren G. K., 'Are imputation credits capitalised into stock prices?', Accounting and Finance 55, 2015, p.273.

[390] ibid.

That is, regardless of whether imputation credits affect asset prices, unless an assumption is made that **all** investors in the benchmark efficient entity are non-Australian taxpayers, imputation credits will nonetheless be a source of value to **some** investors. Accordingly, failing to account for this value would tend to overestimate required revenues, which is not consistent with the requirements of the pricing order.

Overall, we do not accept that a zero-gamma value is 'well accepted' by the academic community for the purpose of calculating a revenue requirement for a benchmark efficient entity.

Our review of the Port's financial practitioner evidence

The second body of evidence that the Port relies on in placing a one-third weight on a zero value for gamma comes from financial practitioners. In particular, the Port justifies their approach on the basis that valuation reports do not typically include gamma factors in discount rates. Surveys of financial practitioner valuation approaches also indicate that in this context a gamma adjustment is not commonly applied to the discount rate.

Our review of the survey evidence put forward by the Port finds that it does not clearly support their interpretation. For instance, we consider that the Port has incorrectly interpreted Truong et al (2008).[391] The Port states:

> The [commission] then goes on to reference a market practice survey (Truong, Partington and Peat, 2005, which we have cited in previous reports and have done so again above), which finds that some valuation experts (15%) assign value to imputation credits. In our view, this survey reinforces that the weight of evidence is that imputation credits are not valued by the vast majority of independent experts.[392]

This is incorrect. The survey's findings were that 85 per cent of respondents did not adjust for imputation in estimating beta or the MRP. 17 per cent made an adjustment for imputation credits for project evaluation. However, only 10 per cent considered that the value of imputation credits had zero market value.[393] Independent experts may not place an explicit value on imputation credits in order to value the company as a whole, but they do consider that there is value for Australian investors from imputation credits.

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[391] We note that Synergies cite the study as 2005 in the main text, but provide a reference to the study as being in 2008 in its footnotes.

[392] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2020, p.240.

[393] Truong, G., Partington, G., and Peat, M., 'Cost-of-Capital Estimation and Capital Budgeting Practice in Australia', Australian Journal of Management, Vol. 33 No. 1, June 2008, p.116.

The Port refers to the KPMG 2019 survey to which 92 per cent of respondents state that they do not make a gamma adjustment to discount rates for the purpose of valuations.[394] The Port considers that this 'reaffirms unambiguously that the 'well accepted' approach to gamma among financial practitioners is to apply no value to imputation credits'.[395] However, the value of imputation credits need not be reflected in the discount rate; an adjustment can instead be made to cash flows. KPMG does ask the following question: 'Where imputation benefits are included as an adjustment to the cash flows, what utilisation factor do you assume?'[396]

64 per cent of respondents to this question said that they assume a positive utilisation factor, while the average utilisation factor being applied was 36.4 per cent. 32 per cent reported using a utilisation factor of zero. This does not tell us the overall proportion of respondents that make an imputation credit adjustment to either the discount rate or cash flows. Accordingly, the survey cannot be taken as conclusive evidence that valuers typically assign zero value to imputation credits.

In relation to valuation reports, the sample that we have reviewed is consistent with the Port's conclusion that the majority of such reports do adopt a zero value for gamma. However, we do not agree that these reports suggest that finance practitioners believe that the value of imputation credits to investors is zero.

For example, the Port relies strongly on statements made by Grant Samuel, making the following claim:

> Most prominently, Grant Samuel has stated unequivocally on multiple occasions (see reports cited in this section) that it does not believe that Australian equity prices incorporate a value for franking credits, nor does it believe that gamma adjustments are made by asset acquirers, as shown below.[397]

[394] KPMG, 'What's it worth? Determining value in the continuing low interest rate environment', KPMG Valuation Practices Survey 2019, 2019, p.14.

[395] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2020, p.242.

[396] KPMG, 'What's it worth? Determining value in the continuing low interest rate environment', KPMG Valuation Practices Survey 2019, 2019, p.14.

[397] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2020, pp.239-240.

It then goes on to cite a 2019 Grant Samuel independent expert report:

> While acquirers are attracted by franking credits, there is no clear evidence that they will actually pay extra for a company with them.[398]

The Port also notes that:

> Grant Samuel did acknowledge that imputation credits may have value to some shareholders but argued that they do not affect the underlying value of the company itself.[399]

The Port goes on to conclude that 'In our view, Grant Samuel's stance strongly implies that imputation credits do not have value for the marginal price-setting investor, who is central to the determination of firm value.[400]

We have commented above on the lack of consensus that asset prices are set by a single marginal investor. Further, the Port's statements and quote of Grant Samuel's report is misleading. The full quote from the above is:

> while acquirers are attracted by franking credits there is no clear evidence that they will actually pay extra for a company with them (**at any rate the share market evidence used by Grant Samuel in valuing the Bellamy's business will already reflect the value impact of the existence of franking credits**). Further, franking credits are not an asset of the company in the sense that they can be readily realised for a cash sum that is capable of being received by all shareholders. The value of franking credits can only be realised by shareholders themselves when they receive distributions. Importantly, the value of franking credits is dependent on the tax position of each individual shareholder. To some shareholders (e.g. overseas shareholders) they may have very little or no value. Similarly, if they are attached to a distribution which would otherwise take the form of a capital gain taxed at concessional rates there may be minimal net benefit (in fact, there may be some categories of shareholders who are worse off in this situation such as shareholders with a capital loss on disposal of the shares).
>
> Accordingly, while **franking credits may have value to some shareholders they do not affect the underlying value of the company itself**. No value has therefore been attributed

[398] Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2020, p.241.

[399] ibid.

[400] ibid.

> to the accumulated franking credit position of Bellamy's in the context of the value of Bellamy's as a whole.[401] [Emphasis added]

Either Australian shareholders value imputation credits and this is reflected in equity prices or they do not. You cannot have a bet both ways. It is also clear that Grant Samuel is discussing the valuation of Bellamy's. Grant Samuel is not estimating what the required rate of return would be for investors in a regulated asset for which the return is calculated based on an accrual building blocks method.

Our review of independent valuation reports suggests that the primary reason why valuers do not make an adjustment for gamma is that they do not believe that there is a universal adjustment that would appropriately reflect the value of imputation credits for **all** investors, who are the audience for their reports. For example, in a 2015 Independent Expert Report, Grant Samuel stated:

> **There is undoubtedly merit in the proposition that dividend imputation affects returns**. Over time dividend imputation may become factored into the determination of discount rates by corporations and investors. In Grant Samuel's view, however, the evidence gathered to date as to the value the market attributes to franking credits is insufficient to rely on for valuation purposes. The studies that measure the value attributed to franking credits are based on the immediate value of franking credits distributed and do not address the risk and other issues associated with the ability to utilise them over the longer term. More importantly, Grant Samuel does not believe that such adjustments are widely used by acquirers of assets at present. While acquirers are undoubtedly attracted by franking credits there is no clear evidence that they will actually pay extra for them or build it into values based on long term cash flows. In Grant Samuel's opinion, **the better view is that dividend franking enhances the returns to Australian investors (compared to offshore investors)** rather than impacting on market values. Accordingly, it is not appropriate to make any adjustment.[402] [Emphasis added]

In addition, we note that Grant Samuel does not make an allowance for imputation credits in its MRP.[403] In a subsequent independent expert report on Asciano, Grant Samuel noted:

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[401] Grant Samuel, 'Independent Expert Report, Bellamy's Australia Limited Scheme Book', 2019, p.59.

[402] Grant Samuel, 'Independent Expert's Report, Annexure A of Asciano scheme booklet', 2015, p.326.

[403] Grant Samuel, 'Independent Expert's Report, Annexure A of Asciano scheme booklet', 2015, p.319

> Nevertheless, it needs to be recognised that, where part of the consideration under a takeover offer or scheme comprises a franked dividend, **some shareholders may realise additional value from the franking credits**[404] [Emphasis added]

Accordingly, not taking account of the value of these credits risks setting the Port's tariffs at a level that targets a return above what Australian investors require for the level of systematic risk associated with the Port.

Overall, we find that while adopting a zero-gamma value may be considered appropriate in the context of a valuation report targeted at a diverse investor base, there is no evidence to suggest that financial practitioners would endorse this approach for the purpose of determining a revenue requirement for a benchmark efficient entity. In contrast, regulatory approaches to gamma do explicitly account for the fact that some, but not all, investors in a benchmark efficient entity will derive value from imputation credits.

[404] Grant Samuel, 'Independent Expert's Report, Annexure A of Asciano scheme booklet', 2016, p.180.

Appendix 3: Cost allocation principles

This appendix sets our assessment of the Port's compliance with the cost allocation principles in the pricing order during the review period. Our assessment covers clauses 5.1 and 5.2 of the pricing order.

15.1. Summary

We consider the Port has not complied with the cost allocation principles under clause 5.2.1. Since this non-compliance was across the review period, we consider it to be sustained non-compliance.

15.2. The Port's approach and our assessment under the pricing order

The pricing order requires the Port to allocate its costs between prescribed services and all other services in a manner consistent with the cost allocation principles. Clause 5.1 seeks to promote a transparent and consistent methodology for the Port to allocate and monitor costs when it sets prescribed service tariffs during the review and lease periods.[405] For example, without a cost allocation approach, we are unable to determine whether prescribed service tariffs for different cargo types, types of prescribed services and/or port users are recovering the costs for the relevant prescribed services. A risk is some port users may not be paying cost-reflective prices and may be cross-subsidising the prescribed service(s) provided to other ports users.

The Port has undertaken cost allocation since the beginning of the review period. To improve transparency, the Port developed a dedicated cost allocation model to support its annual tariff compliance statements from 2019-20.[406]

While the Port has set prices during the review period within the tariffs adjustment limit, it is important the Port appropriately allocates the capital costs that it is seeking to recover in future prescribed service tariffs through deferred depreciation (refer to Chapter 8).

The pricing order requires the Port to allocate costs between prescribed services and non-prescribed services in a manner consistent with the following cost allocation principles:

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[405] Clause 5.1.1 states the 'objective of the Cost Allocation Principles is to provide a transparent and consistent methodology for allocating and monitoring costs for the purpose of setting Prescribed Service Tariffs'.

[406] You can find public copies of the Port's cost allocation models, model user guides and other tariff compliance statement information on our website www.esc.vic.gov.au/transport/port-melbourne/port-melbourne-compliance-pricing-regulations.

(a) costs that are directly attributable to the provision of the prescribed service must be attributed to that prescribed service
(b) costs that are not directly attributable to the provision of the prescribed service but which are incurred in the course of providing both one or more prescribed services and other services must be allocated to the prescribed service on the basis of its share of total revenue from all services provided by the Port.[407]

To inform our assessment of the Port's compliance with clause 5.1, we engaged FTI Consulting to review the Port's cost allocation models submitted with its annual tariff compliance statements and supporting information.[408, 409]

We agree with FTI Consulting's view that 'directly attributable' means prescribed service costs that are relevant to an individual prescribed service only, and therefore do not include costs that are shared between prescribed services and/or non-prescribed services. Our discussion below covers 'directly attributable' prescribed service costs unless otherwise specified.

15.3. Our view on the allocation of directly attributable capital costs

15.3.1. The Port's approach

In the first three years of the review period, the Port did not allocate operating expenditure to individual prescribed services. From 2019-20 onwards, the Port allocated costs based on revenue shares, rather than specific cost drivers.

15.3.2. Our consideration of the Port's approach

In the first three years of the review period the Port's operating cost allocation does not comply with the cost allocation principle 5.2.1(a) from the pricing order.

The allocation approach from 2019-20 onwards based on revenue shares rather than specific cost drivers is an appropriate way of allocating costs for most prescribed service costs, which are non-controllable costs relevant to all prescribed service types.

Given the landlord nature of the Port and the scale and scope of its operations, it is not evident that there are specific controllable prescribed service costs that relate only to individual service types.

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[407] Pricing order, clauses 5.2.1(a) and (b).

[408] Refer to Schedule 2 – Pricing and Cost Allocation Assessment of our notice under section 56 of the Port Management Act 1995 (Vic) issued to the Port on 1 July 2021.

[409] [redacted]

The Port's cost to service mapping ensures that cost categories are not allocated to service types that do not benefit from that cost category. In addition, controllable prescribed service costs make up a very small proportion of the Port's operating costs. For example, in 2020-21 controllable prescribed services are forecast to be $30.2 million, whereas the Port's total prescribed operating expenditure is forecast to be $133.9 million. The Port also advised that the revenue contribution of each service type has provided a reasonable proxy for operating expenditure cost drivers (i.e., reflective of the level of effort and resources associated with each service).[410]

15.3.3. Our views on compliance

We agree with FTI Consulting's view that the Port has not complied the cost allocation principle 5.2.1(a) in the first three years of the review period. From 2019-20, we consider that the Port's approach to allocating non-controllable prescribed costs based on revenue shares is appropriate. These costs account for around 80 per cent of prescribed operating costs. For the remaining controllable prescribed costs, the assessment of compliance depends on whether revenue shares are an appropriate proxy of the activity involved in the provision of each individual service. The Port has confirmed that it does provide an appropriate proxy.

15.4. Our view on the allocation of directly attributable capital costs

15.4.1. The Port's approach

Capital expenditure relating to specific projects or activities is designated as prescribed, shared or non-prescribed and is allocated to the relevant asset class. The Port's cost allocation model allocates the total expenditure by asset class back to individual prescribed service types. This is based on revenue shares, where the service type benefits from that asset class.

Road and rail assets costs unrelated to the Port Rail Transformation Project have not been allocated correctly over the review period.

In addition, the Port allocated rail asset costs related to the Port Rail Transformation Project to tariffs other than the 'full – inward' wharfage fee.[411] This means the Port's allocation approach could recover Port Rail Transformation Project capital costs twice if not corrected, once through the increased 'full-inward' wharfage fee and again through the other tariffs. This is also non-compliant

[410] Meeting with Port of Melbourne, 23 July 2021.

[411] On 20 May 2020, the Victorian Government amended the pricing order to enable the Port to recover costs for its Port Rail Transformation Project by increasing the 'full – inward' wharfage fee in 2019-20.

with clause 5.2.1 because recovering costs twice is not consistent with the cost allocation principles.

The Port has acknowledged it made these road and rail cost allocation errors, confirmed they have no material impact and they will be corrected in the 2022-23 tariff compliance statement.[412]

15.4.2. Our consideration of the Port's approach

We agree with FTI Consulting's view that the Port's current approach is appropriate to the extent that most of its capital expenditure relates to common user assets.

15.4.3. Our views on compliance

We consider the incorrect allocation of road and rail capital costs is a non-compliance with clause 5.2.1(a) since the cost allocation principles were not correctly applied and this occurred over the review period.

15.5. Our view on compliance with 5.2.1(a)

Over the review period, we have found the Port's cost allocation has been non-compliant in each year (see Table 15.1). For this reason, the non-compliance with 5.2.1(a) is sustained. It is not significant however because within the review period tariffs are constrained by the tariffs adjustment limit, so the non-compliance has not impacted port users. The Port needs to correct its cost allocation for road and rail errors within its deferred depreciation in order to be compliant in the future once the tariffs adjustment limit is lifted.

Table 15.1: Summary of cost allocation non-compliance during the review period

2017-18	2018-19	2019-20	2020-21
•Clause 5.2.1(a) operating expenditure •Clause 5.2.1 (a) capital expenditure	•Clause 5.2.1(a) operating expenditure •Clause 5.2.1 (a) capital expenditure	•Clause 5.2.1 (a) capital expenditure	•Clause 5.2.1 (a) capital expenditure

412 [redacted]

15.6. Our view on compliance with 5.2.1(b)

The Port interprets this principle to mean that all shared costs are allocated to prescribed services (in aggregate) based on the share of total revenue accounted for by prescribed services. This results in the same prescribed service allocator being used across all categories.

We agree with FTI Consulting's view that the Port's interpretation is reasonable and consider the Port has demonstrated compliance with cost allocation principle 5.2.1(b).

Appendix 4: Prescribed services pricing

This appendix sets out our assessment of the Port of Melbourne's compliance with the prescribed service tariff principles during the review period. Our assessment covers the following pricing order clauses:

Clauses	Clarification
2.1, 2.2, 2.3 3.1, 3.2, 3.3 6.2 11	You can find our assessment of the reference tariff schedules under clauses 6.1 and 6.3 in Appendix 5, along with our assessment of the tariff compliance statements under clause 7.

Note: Clauses refer to the pricing order including the 2020 amendments. Clause 14 of the pricing order sets out any definitions.

16.1. Summary

Our view is the Port's prescribed service tariffs were non-compliant across the review period and across a number of pricing order clauses.

16.2. The Port's approach to prescribed service tariffs

The Port is required to comply with requirements in the pricing order when it sets its prices for the provision of prescribed services.[413] In particular, schedule 1 of the pricing order sets out the prices for the initial prescribed service tariffs the Port can charge in 2016-17. Schedule 1 also sets out wharfage tariffs for 2017-18 that are subject to escalation. The pricing order only allows the Port to increase prescribed service tariffs by the tariffs adjustment limit from 1 June 2017 until at least 30 June 2032, unless the Port submits a rebalancing application that is accepted by the commission.[414, 415]

[413] Prescribed services are set out in section 49(1)(c) of the Port Management Act 1995 (Vic).

[414] Clauses 3.1, 3.2 and 3.3 set conditions on how the Port may adjust prices and introduce tariffs. The tariffs adjustment limit applies for the duration of the review period, therefore clauses 3.3 and 3.4 are not assessable under this inquiry.

[415] See clause 14 for definitions, tariffs adjustment limit 'means the percentage change in CPI between the March quarter immediately preceding the relevant Financial Year and the March quarter in the Financial Year two years preceding the relevant Financial Year'.

On 20 May 2020, the Victorian Government amended the pricing order to enable the Port recover costs for its Port Rail Transformation Project by increasing the 'full – inward' wharfage fee in 2019-20.[416]

Every time the Port sets prices, it is required to submit a tariff compliance statement to the commission to demonstrate its prices are compliant with the pricing order.[417] The Port has set prices five times during the review period for the financial years 2017-18 to 2021-22. We have not assessed the Port's prices for 2021-22 because that forms part of our future inquiry for 1 July 2021 to 30 June 2026.

During the review period, the Port has charged 2016-17 tariffs and 2017-18 wharfage tariffs in compliance with the Schedule.[418] The Port has increased the 2016-17 initial prescribed service tariffs in line with the tariffs adjustment limit for 2017-18, 2018-19, 2019-20 and 2020-21. The Port submitted to the commission but later withdrew its first and only rebalancing application in 2020-21.

16.3. Clause 2.1 Principles for prescribed service tariffs

Our view is that the Port has not complied with clause 2.1.1(a) for the review period.

16.3.1. Most of the Port's prescribed service tariffs are compliant with the pricing principles

Our assessment of the Port's building blocks used to calculate its aggregate revenue requirement in accordance with clause 4 is set out in section 4.1. In summary, we found the Port's approaches for operating expenditure and return on capital did not comply with clause 4 during the review period.[419] This means the Port will recover above the efficient cost of providing all prescribed services, so the Port is not compliant with clause 2.1.1(a). However, we note clause 3.1.1, the tariffs adjustment limit, applies to the Port's tariffs.

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416 Victorian Government Gazette No. S 247 Wednesday 20 May 2020.

417 The Port's tariff compliance statements and pricing models can be found on our website https://www.esc.vic.gov.au/transport/port-melbourne/port-melbourne-compliance-pricing-regulations.

418 Compliant with clause 11.1.2. Clauses 11.1.1, 11.1.3 and 11.1.4 are not assessable.

419 Clause 2.1.1(a) allows the Port 'a reasonable opportunity to recover the efficient cost of providing all Prescribed Services determined by application of an accrual building block methodology of the type described in clause 4 (Aggregate Revenue Requirement)'.

The Port has chosen to recover all its capital expenditure from 2032 by adopting a deferred depreciation approach.[420] During the review period, the Port has not set out how it will recover the deferred capital expenditure, consequently port users may face price shocks from 1 July 2032 when the tariffs adjustment limit ends. Several port users and other stakeholders raised concerns about future price shocks on them and their customers as a result of the Port's approach.[421]

The pricing order sets out an efficient cost bounds test that does not apply to prescribed service tariffs where the Port is compliant with the tariffs adjustment limit, however we note the test does apply to contract revenue.[422] The prescribed service bundles remained within the efficient cost bounds. Based on this information, we conclude the Port has set prescribed service tariffs in accordance with clauses 2.1.1(b) and 2.1.4.

The Port has set prescribed service tariffs each year by increasing initial prescribed service tariffs with CPI, which effectively holds the tariffs constant in real terms across the review period. The Port has not altered tariff structures or introduced new tariffs via a rebalancing application. Given clause 11 of the pricing order deems the initial prescribed service tariffs compliant with the pricing order, we also conclude the Port has complied with clauses 2.1.2 and 2.1.3 in the review period.[423]

Our assessment does not consider how these clauses apply to the Port's contracts with a port user for prescribed services. please refer to the section on clause 6.2.

16.3.2. Wharfage fees comply with the pricing order amendment for the Port Rail Transformation Project

On 20 May 2020, the Victorian Government amended the pricing order to enable the Port to recover costs for its Port Rail Transformation Project by increasing the 'full – inward' wharfage fee

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[420] During the port lease, the Port will not recover all its operating expenditure due to the accrual building blocks methodology.

[421] We received public submissions from Patrick Terminals, Quantem and Shipping Australia. [redacted]

[422] Clause 2.1.4(a) applies in 2016-17 and 2.1.4(b) applies for the remainder of the review period due to the tariffs adjustment limit in clause 3.1.1. Clause 2.1.4 applies to prescribed service tariffs as distinct from prescribed service bundles. For clarity, the Port may recover revenue from contracts under clause 6.2 that forms part of a prescribed service bundle.

[423] Clause 11.1.3 states 'despite any other provision of this Order, the Initial Prescribed Service Tariffs established under clause 11.1.1 are deemed to comply with the Pricing Principles and Cost Allocation Principles in the Initial Financial Year.'

in 2019-20.[424] The newly introduced clause 2.1.6 specified the Port 'must not recover Rail Asset Costs other than by a Prescribed Service Tariff for 'Full – inward' Wharfage Fees'.

In its 2020-21 cost allocation model, we found evidence the Port had allocated all rail capital expenditure to wharf access and slipway tariffs, consistent with its approach for prior years. As a result, the Port was not allocating its rail assets costs to full – inward wharfage fees.

In response to our information notice under section 56 of the PMA, the Port confirmed it had not correctly mapped some of its road and rail assets to wharfage fees more generally in its cost allocation model, along with the specific costs for the Port Rail Transformation Project. The Port advised it considers the errors have no material impact and it will correct its method for the next tariff compliance statement.[425] None of this capital expenditure has been recovered so there is no impact on customers in the review period.

We conclude that the Port has been compliant with clause 2.1.6 over the review period because it has not yet recovered the costs. Refer to Chapter 9 for our assessment of the Port's cost allocation method.

16.4. Clause 2.2 Specific shared channel tariffs pricing principles

Our view is that the Port has complied with clause 2.2 for the review period.

Shared channels are used by vessels bound for either the Port of Melbourne or the Port of Geelong. Dedicated channels are used by vessels bound only for the Port of Melbourne.

The Port must set prescribed service tariffs for the use of the shared channels under clause 2.2.1:

> (a) by application of the same accrual building block methodology and parameters that are utilised in determining Prescribed Service Tariffs for the Dedicated Channels, including without limitation in relation to establishing:
>
> (i) an allowance to recover return on the applicable capital base;
>
> (ii) an allowance to recover return of the applicable capital base; and
>
> (iii) an allowance to recover its forecast of applicable operating expenses, (see clause 4); and
>
> (b) so as not to otherwise discriminate between Port Users on the basis of port or berth.

[424] Victorian Government Gazette No. S 247 Wednesday 20 May 2020.

[425] [redacted]

We have confirmed that the same methodology is used for all of the Port's prescribed service tariffs for both shared channels and dedicated channels, including the same allowance to recover return on and of the capital base. Therefore, the Port has complied with clause 2.2.1(a)(i) and (ii).

We compared the expenditure and revenue for shared channels and dedicated channels. The total revenue for shared channels exceeded the total expenditure for shared channels, and the total revenue for dedicated channels exceeded the total expenditure for dedicated channels (see Table 16.1). This means the Port has complied with clause 2.2.1(a)(iii).

Table 16.1: Channel revenue minus expenditure ($ million)

Total revenue minus total expenditure	2016-17	2017-18	2018-19	2019-20	2020-21
Shared channels	[redacted]	13.58	17.11	17.01	13.20
Dedicated channels	[redacted]	27.34	28.40	17.97	26.22

Source: Port of Melbourne's regulatory models from the [redacted] 2018-19, 2019-20 and 2020-21 tariff compliance statements, Port of Melbourne's cost allocation models from the 2019-20 and 2020-21 tariff compliance statements.

[redacted]

We consider the Port has complied with clause 2.2.1 b) because, in all years of the review period there is not a separate tariff for the same shared channel based on the destination port or berth.

16.5. Clause 2.3.1 Export pricing decision

Our view is the Port was compliant with the export pricing decision for the review period.

The export pricing decision aims to enhance competitiveness of the Port with the Port of Botany and other Australian container ports by discounting full outbound container wharfage tariffs compared to full inbound container wharfage fees.[426]

We consider the Port's has complied with the export pricing decision in clause 2.3.1 and 14 when setting prescribed service tariffs for full outbound container wharfage services because:[427]

[426] Clause 14 of the pricing order defines the export pricing decision.

[427] Clause 2.3.1 Notwithstanding any other provision of this Order, the Port Licence Holder must maintain and comply with the Export Pricing Decision when setting Prescribed Service tariffs for full outbound container wharfage services.

- The Port has reduced prescribed services tariffs for full outbound container wharfage services by 2.5 per cent from the previous year for each of 2017-18, 2018-19 and 2019-20. Note all prices in 2016-17 were specified in the pricing order.[428]
- In 2020-21 the Port set its prescribed service tariffs for full outbound container wharfage services at the same percentage discount to the equivalent prescribed service tariffs for full inbound container wharfage services as in 2019-20.[429]

16.6. Clause 3.1 Tariffs adjustment limit

Our view is the Port has not complied with clause 3.1.1 in 2018-19 to 2020-21 due it its use of unaudited revenue for calculating the weighted average tariff increase.

The port is required to set its tariffs for prescribed services in line with the tariffs adjustment limit, which is a requirement that weighted average tariff changes do not exceed the percentage change in the annual consumer price index.[430] The port must calculate the percentage weighted average tariff increase to demonstrate that its weighted average tariff increase for prescribed services does not exceed the tariffs adjustment limit.[431]

Clause 14 of the pricing order defines the weighted average tariff increase as:

> in respect of a Financial Year, the expected weighted average rate of increase in the Prescribed Service Tariffs using weightings based on historical revenues derived from the Prescribed Service Tariffs in the most recent Financial Year for which audited data are available or, if there is no historic audited data upon which to calculate the expected weighted average rate of increase on this basis, an alternative estimate of revenue for the purpose of calculating weightings on a basis determined by the Commission.

The commission has not determined any other basis for an alternative estimate of revenue.

[428] Clause 14, export pricing decision: (a) reducing Prescribed Service Tariffs for full outbound container wharfage services by 2.5 per cent from the price applicable at the start of the preceding Financial Year, at the start of each of the 2017, 2018, 2019 and 2020 Financial Years

[429] Clause 14, export pricing decision: (b) from the start of the 2021 Financial Year and thereafter, setting prices for Prescribed Service Tariffs for full outbound container wharfage services at a percentage discount to the equivalent Prescribed Service Tariffs for full inbound container wharfage services that, expressed as a percentage, is the same or a greater percentage discount than was applicable in the 2020 Financial Year.

[430] Clauses 3.1.2 and 3.2.3 clarify how clause 3.1.1 applies to the 'full – inward' wharfage fee from the May 2020 pricing order amendment.

[431] Essential Services Commission, Statement of Regulatory Approach – version 2.0, April 2020, p.12.

16.6.1. Calculation of the weighted average tariff increase

To calculate the weighted average tariff increase, the percentage change of each prescribed service tariff proposed by the Port is multiplied by the revenue weight (the proportion of total revenue attributed to the tariff in the audited historical data). The sum of these percentages gives the weighted average tariff increase.

Contract revenue and export pricing decision tariffs must be excluded from the calculation of the weighted average tariff increase.[432, 433] For clarity, we have set out our calculation steps in Figure 16.1 and provided an example of the output in Table 16.2:

Figure 16.1: Formula to calculate the weighted average tariff increase

Step 1: Identify the relevant prescribed tariffs for the calculation. Exclude contract revenues and tariffs under the export pricing decision.

Step 2: Calculate the percentage change in each tariff using:

((tariff in given year) / (tariff in prior year) -1) x 100

Step 3: Identify the latest audited revenue for each tariff. Calculate the revenue weight for each different tariff using:

(audited revenue from a tariff) / (total audited revenue from all tariffs) x 100

Step 4: For each different tariff, calculate:

(percentage change in a tariff from step 2) x (revenue weight of that tariff from step 3)

Step 5: Sum the results for all tariffs from step 4 to establish the weighted average tariff increase.

Note for step 3: Given the Port submits its tariff compliance statement in May each year, there is a two-year delay to incorporate audited revenue. Audited data was first available for the Port's 2018-19 tariff compliance statement.

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432 Essential Services Commission, Statement of Regulatory Approach – version 2.0, April 2020, p.14.

433 [redacted]

Table 16.2: Weighted average tariff increase example calculation

Step 1: Relevant tariffs	Step 2: Change in tariff	Step 3: Audited revenue	Step 3: Revenue weight	Step 4: Change in tariff x revenue weight
Tariff 1	1.2%	$550,000	55%	0.66%
Tariff 2	0.2%	$350,000	35%	0.07%
Tariff 3	2.7%	$100,000	10%	0.27%
Step 5: Weighted average tariff increase				**1.00%**

16.6.2. Non-compliance due to use of unaudited revenue in weighted average tariff increase

Due to the timing of the Port's annual tariff compliance statements, audited revenue is available in the tariff compliance statement two years later than the year of the audited revenue.

We found Port of Melbourne was non-compliant in years 2018-19, 2019-20 and 2020-21 because:

- Revenue was not audited for 2016-17, which means unaudited revenue for 2016-17 was used in the 2018-19 tariff compliance statement regulatory model to calculate the weighted average tariff increase.
- The Port of Melbourne had its revenue audited for 2017-18 and 2018-19. However:
  - audited data for 2017-18 was not included in the tariff compliance statement regulatory model for 2019-20, instead unaudited revenue was used
  - audited data for 2018-19 was not included in the tariff compliance statement regulatory model for 2020-21, instead unaudited revenue was included.

The difference between unaudited and audited revenue is immaterial for 2017-18 and 2018-19. This means the non-compliance for using unaudited revenue to calculate the weighted average tariff increase in the 2019-20 and 2020-21 tariff compliance statements is not significant in the review period. We acknowledge that the Port considers that using audited revenue to comply with the pricing order may create regulatory burden.

We understand the Port continues to monitor the variance between its audited and unaudited revenues for regulatory purposes.

We also make some observations on the Port's calculation of the weighted average tariff increase for 2017-18 to 2020-21.[434]

Table 16.3: Weighted average tariff increase calculations in the review period (years prices apply for each of the Port's tariff compliance statements)

	2017-18	2018-19	2019-20	2020-21
The Port's initial WATI	1.13%	0.92%	1.32%	2.17%
Findings on the Port's initial WATI calculation	incorrect formula export pricing tariffs included	incorrect formula export pricing and slipway tariffs included	slipway tariffs included	slipway tariffs included
The Port's corrected WATI	2.12%	1.90%	1.33%	2.19%
Tariffs adjustment limit	2.13%	1.90%	1.33%	2.19%
Compliant with clause 3.1.1	Yes	Yes	Yes	Yes

Notes: WATI is an abbreviation of weighted average tariff increase.
Source of initial WATI: Port of Melbourne's regulatory models for 2017-18, 2018-19, 2019-20 and 2020-21.

We found that the Port initially calculated the weighted average tariff increase incorrectly in its tariff compliance statements from 2017-18 to 2020-21.

When these errors were corrected, the weighted average tariff increase did not exceed the tariffs adjustment limit during the review period.

16.7. Clause 3.2 Rebalancing application

We find the Port has been non-compliant with clause 3.2 for the review period.

The Port introduced new prescribed service tariffs without an accepted rebalancing application in 2017-18, 2018-19, 2019-20 and 2020-21.

In addition, while not putting our observation as high as a finding of non-compliance, we note that the Port's rebalancing application submitted in 2020-21 did not appear to demonstrate that the Port allowed a reasonable opportunity for port users to participate and contained insufficient supporting information.

[434] We reviewed the Port's regulatory models and other supporting information in each of its tariff compliance statements. We also reviewed the Port's WATI calculation provided in response to our draft inquiry report dated 26 November 2021.

The Port submitted its first and only tariff rebalancing application on 23 December 2020 to propose a variation to wharfage fees for 2021-22. The Port withdrew its rebalancing application on 11 February 2021 to 'provide further opportunities for Port Users and other stakeholders to provide their views' on the Port's rebalancing proposal.[435]

We have given consideration to the Port's prescribed service tariffs and rebalancing application against a few specific clauses of the pricing order.[436] The remaining clauses largely set out procedures the commission must follow when assessing a rebalancing application or the Port must consider when it provides an amended rebalancing application.

16.7.1. The Port has adjusted prices by the same percentage

Clause 3.2.1 states the Port 'may only revise each Prescribed Service Tariff (other than, in the period prior to the start of the 2020 Financial Year, Prescribed Service Tariffs that are subject to the Export Pricing Decision) in respect of a Financial Year by the same percentage adjustment.'

The Port's approach to adjusting prices (in all years of the review period) is applying a cumulative CPI index to the initial prescribed service tariffs, rather than having all prices except for those subject to the Export Pricing Decision change by the same percentage adjustment in a financial year.

The Port has acknowledged that its approach to applying CPI has led to prices not being adjusted equally each year. In 2019-20 and 2020-21, the Port presented its approach in its regulatory model for comparison with the approach required by the pricing order. We agree that the Port's approach results in minor rounding differences compared to the approach under the pricing order. Given the immaterial nature of the rounding different and on balance with the possible regulatory burden, we consider the Port's approach has been compliant with clause 3.2.1 for the review period.

16.7.2. The Port has introduced a new prescribed service tariff without a rebalancing application

The Port forecasted revenue from tariffs for a small vessel slipway adjacent to Victoria Dock in its 2018-19 tariff compliance statement and also added the tariffs into its 2018-19 reference tariff schedule. The three slipway tariffs are:

- flagfall, with a price per docking
- slipway hire, with a price per day

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[435] Port of Melbourne, letter Re: Port of Melbourne 2021-22 Rebalancing Application, 11 February 2021.

[436] We have assessed the Port's compliance with clauses 3.2.1, 3.2.3, 3.2.5, 3.2.6 and 3.2.7 of the pricing order.

- wharf edge access, with a price per day when the slipway has not been booked for use.

In response to our interim commentary on its 2018-19 tariff compliance statement, the Port acknowledged its error and proposed to approach slipway hire through contracts under clause 6.2 in the future years.

We consider the Port's provision of a slipway is a prescribed service under section 49(1)(c) of the PMA and therefore the Port's tariffs are prescribed services tariffs under the pricing order.[437] Our view is the Port was non-compliant with clause 3.2.3 for the 2018-19 year.

The Port provided contract information to help us understand whether slipway tariffs should in fact be treated as contracts for prescribed services under clause 6.2. [redacted]

We conclude that the Port has entered into contracts for prescribed services, therefore the slipway tariffs should be removed from prescribed service tariff revenue and included under contract revenue in the Port's future tariff compliance statement.

16.7.3. The Port's rebalancing application may not have met all requirements

On 23 December 2020, the Port submitted its first rebalancing application setting out prices it proposed to charge from 1 July 2021, particularly the variation to the existing wharfage fee for full inward containers.[438]

Prior to submitting a rebalancing application, the Port is required to consult on the proposal and provide a reasonable opportunity for port users to express their views.[439] Within a rebalancing application, the Port must provide sufficient supporting information to enable us to verify the

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[437] Clause 49(1)(c)(iv) states prescribed services include: 'the provision of access to, or allowing the use of, places or infrastructure (including wharves, slipways, gangways, roads and rail infrastructure) on port of Melbourne land for the provision of services to port users'. Note: port user has a different meaning under the pricing order. The pricing order defines a port user as 'a person who requests or receives Prescribed Services'.

[438] The Port's 2021-22 tariff rebalancing application can be found on our website www.esc.vic.gov.au/transport/port-melbourne/port-melbourne-reviews/port-melbourne-tariff-rebalancing-application-review-2021.

[439] Clause 3.2.5 states 'Prior to making a Rebalancing Application, the Port Licence Holder must consult Port Users about its proposal to do so and provide a reasonable opportunity for Port Users to express their views to the Port Licence Holder.'

proposed price and/or tariff changes.[440] The Port is also required to adopt a reasonable March CPI estimate.[441]

As part of this inquiry we have looked back at the Port's tariff rebalancing application and supporting evidence. As a result, we found the:

- The Port's March CPI estimate based on an inflation forecast from its consultant, Deloitte Access Economics, in its rebalancing application would have been compliant with clause 3.2.6.
- The Port does not appear to have provided substantial information to port users to enable them to reasonably participate in the consultation. We have seen evidence that the Port provided limited information on the prudency and efficiency of the expenditure to participants during the engagement process. Therefore, port users may not have had a reasonable opportunity to express informed views on a matter of significant impact, which directly influences the tariffs the Port was proposing to rebalance and charge to port users.
- The Port considered the assessment of its 'investments for prudency and efficiency, is separately administered through the annual tariff compliance statement and five-yearly [commission] reviews of [the Port's] compliance with the Pricing Order' rather than in the context of a tariff rebalancing application.[442] On a review the Port's application as lodged on 23 December 2020 did not include sufficient supporting information to enable the commission to assess its calculation of the aggregate revenue requirement and the prescribed service tariffs as required by clause 3.2.7. We did not complete our review of the Port's rebalancing application given the Port withdrew its application in February 2021.[443]

16.8. Clause 6.2 Contracts for prescribed services

We find that the Port's contracts for prescribed services have complied with clause 6.2 for the review period.

[440] More specifically, clause 3.2.7 requires the Port to provide sufficient information for the commission 'to verify that the proposed Prescribed Service Tariffs comply with clauses 2, 3.1.1, 4 and 5'.

[441] Clause 3.2.6 requires the Port to 'utilise a reasonable estimate of the upcoming March CPI for the purpose of calculating the Tariffs Adjustment Limit in a Rebalancing Application submitted prior to the March CPI Release Date'.

[442] Port of Melbourne, 2021 – 2022 Tariff Rebalancing Application, December 2020, p.7.

[443] Port of Melbourne, letter Re: Port of Melbourne 2021-22 Rebalancing Application, 11 February 2021.

The pricing order allows the Port to 'enter into a contract with a port user for the supply of prescribed services'.[444]

[redacted]

- [redacted]
- [redacted]

We confirm the contracts provided by the Port set out terms and conditions for bespoke prescribed services that differ from the prescribed service tariffs in each of the Port's reference tariff schedules for the review period. [redacted] We consider the Port has also evidenced that it has first offered to provide those prescribed services in accordance with the reference tariff schedule. Therefore, we consider the Port is compliant with clauses 6.2.1(a), (b) and (c). We also found that the services under the contracts remain prescribed services for the review period and therefore, the Port is compliant with clause 6.2.2(a).[447]

To factor the contracts into its aggregate revenue requirement, the Port conceptually separates its contracts into two groups: legacy contracts entered into before the Port's lease commenced and new contracts entered into by the Port.[448] The Port's treatment of these different contracts are:

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[444] Specifically, clause 6.2.1 states on 'on terms and conditions that: (a) differ from those specified in the Reference Tariff Schedule; or (b) do not satisfy the requirements in clause 6.1.5, but only if: (c) the Port Licence Holder has first offered to provide those Prescribed Services to that Port User in accordance with the Reference Tariff Schedule (as required by clause 6.1.6)'.

[redacted]

[redacted]

[447] Clause 6.2.2 states for 'the avoidance of doubt, despite the entry into a contract with a Port User as contemplated by clause 6.2.1: (a) the services provided under the contract remain Prescribed Services'.

[448] Clause 6.2.2(b) states 'revenue from the Prescribed Services provided under all such contracts must be included in the Port Licence Holder's calculation of its Aggregate Revenue Requirement under clause 2.1.1.'

- The Port continues to honour the existing commitments for capital works that have been historically included in the capital base.[449] Therefore, it includes the capital costs and the associated contract revenues in its regulatory model that accompanies each of its tariff compliance statement.
- The new contracts for capital works are excluded from the capital base and the regulatory model, along with the associated contract revenue. This approach promotes a better alignment of timing between costs incurred under the contract and when revenues are recovered from port users than would be achieved using the Port's depreciation method in the regulatory model. It also prevents port users in general from subsidising these user-specific costs through prescribed service tariffs.
- [redacted]
- All contract revenues and rebates are included in the cost allocation model to calculate revenue shares for allocating shared costs (see Appendix 3 for more on the cost allocation principles).

We agree that the Port's treatment of contract costs for its aggregate revenue requirements comply with clause 6.2.2(b) for the review. We note that Port the improved its approach for its 2019-20 tariff compliance statement following discussions with commission staff.

We reviewed the Port's confidential and commercially sensitive evidence to determine whether the contracts were compliant with the applicable pricing principles in clause 6.2.1(d).[450],[451] Our findings are in Table 16.4.

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[449] We agree with the Port's approach to continue with legacy contracts even though the basis of the terms and costs did not factor in all pricing order requirements. The Port of Melbourne Corporation and the port users negotiated using information available at the time. [redacted]

[450] The Port submitted confidential appendices as part of its compliance with clause 7.1.2(d) each year, and it provided further information in response to our notice under section 56 of the Port Management Act 1995 (Vic).

[451] Clause 6.2.1(d) requires 'the contracted terms and conditions [to] comply with the principles set out in clauses 2.1.1, 2.1.2, 2.1.3 and 2.3.1.'

Table 16.4: Compliance with pricing principles, clause 6.2.1(d)

Clause	Findings across the contracts	
2.1.1(a)	Compliant. Prescribed service tariffs continue to be set based on the accrual building block methodology in clause 4. Costs in the new contracts do not form part of the capital base in clause 4.	
2.1.1(b)	Compliant. For the contract services that fall within a prescribed service bundle, the Port has evidenced that the contract revenues or rebates do not cause any prescribed service bundles to breach the efficient cost bounds test.	
2.1.2	Compliant. The prescribed services offered under the contracts are not available through the Port's existing prescribed service tariffs. [redacted] The contracts allow the Port to recover costs from the direct beneficiary of the works, rather than unfairly spreading the costs across prescribed service tariffs and port users. [redacted]	
2.1.3	Compliant. The Port has demonstrated it has had regard to the efficient costs that should be passed-through to a port user, incremental transaction costs and port users ability to respond to price signals. The Port has demonstrated in its agreements and board decision papers that it has had regard to:	
	[redacted]	[redacted]
efficient cost	[redacted]	[redacted]
transaction costs	[redacted]	[redacted]
price signals	[redacted]	[redacted]
2.3.1	Compliant. No contracts reduce the tariff discount in the export pricing decision.	

[redacted]

As per our conclusion for clause 3.2.3, we agree that the Port's tariffs for slipway services should be treated as contracts for prescribed services and are considered in our assessment of clause 6.2.[452] We note the Port has continued with prices and conditions for the slipway service that are consistent with the approach before the port privatisation.[453]

Overall, we consider the Port will need to make some corrections to its treatment of the contracts for slipway services in its regulatory and cost allocation models, but our review of these contracts do not give us reason to change our view of the Port's compliance with any parts of clause 6.2.

16.9. Our view of significant and sustained non-compliance

We have summarised the several instances where the Port's prescribed service tariffs did not comply with the pricing order during the review period in Table 16.5.

Table 16.5: Summary of non-compliances during the review period

2017-18	2018-19	2019-20	2020-21
•Clause 2.1.1(a)	•Clause 2.1.1(a) •Clause 3.1.1 •Clause 3.2.3	•Clause 2.1.1(a) •Clause 3.1.1	•Clause 2.1.1(a) •Clause 3.1.1

Note: Clause references are to the pricing order, included the 2020 amendment.

We consider the manner of the Port's non-compliance was in a sustained manner across the review period, and it does not show a clear improving trend.

We agree with the Port's view that the tariffs adjustment limit during the review period means that any non-compliance did not have a material impact on prices charged to port users. However, we consider there are individual clause impacts as well as a cumulative sustained impact on port users:

- **Clause 2.1.1(a):** In section 4.1 on the aggregate revenue requirement, we outlined the Port is not compliant with clause 4 of the pricing order. This means the Port's approach will recover above the efficient cost of providing all prescribed services, so the Port is not compliant with clause 2.1.1(a).

452 [redacted]

453 [redacted]

- **Clause 3.2.3:** The unintentional introduction of slipway tariffs as prescribed service tariffs without a rebalancing application demonstrates the Port has not had due regard to the pricing order. Although the Port considers the slipway tariffs are better reflected as contracts for prescribed services, slipway tariffs are treated as prescribed service tariffs rather than contract revenue throughout the tariff compliance statements.[454]
- **Clause 3.1.1:** the Port did not use audited revenues to calculate the weighted average tariff increase. The difference between audited and unaudited revenues was immaterial during the review period, so we consider this non-compliance is not significant.

Across the all the non-compliances, we consider the Port has not demonstrated it has given sufficient regard to the requirements in the pricing order. We observe that the Port's assurance processes could be improved to minimize its calculation errors in pricing and cost allocations in future tariff compliance statements.

For clauses 3.2.5 and 3.2.7, we consider the manner any possible non-compliance would be neither significant nor sustained because this was the Port's first and only rebalancing application and the proposed new prices never took effect on port users.

[454] We note the Port offers its slipway services at similar prices and conditions as were available to port users pre-privatisation, therefore we do not consider there is detriment to port users.

Appendix 5: Reference tariff schedules and tariff compliance statements

This appendix sets our assessment of Port of Melbourne's compliance with some documentation requirements during the review period. Our assessment covers the following pricing order clauses:

Clauses	Clarification
6.1, 6.3 7.1.1, 7.1.2 8.1, 8.2, 8.3 9 10.1.1	See Appendix 4 for clause 6.2 covering contracts for prescribed services.

Note: Clauses refer to the pricing order including the 2020 amendments. Clause 14 of the pricing order sets out any definitions.

17.1. Summary

We found the Port's non-compliances across the review period were in a sustained manner across a number of aspects of clauses 7 and 8 across the review period. We assess the Port's compliance in each five-yearly inquiry, therefore information deficiencies are not significant year-on-year. We will work with the Port to improve the information provided during a review period.

Table 17.1: Summary of compliance across the Port's reference tariff schedules and tariff compliance statements (financial year (year that prices apply))

Year prices apply	2017-18	2018-19	2019-20	2020-21	2021-22
Reference tariff schedule	Compliant	Compliant	Compliant	Compliant	Compliant
Amended reference tariff schedule	Not applicable	Not applicable	Compliant	Not applicable	Not applicable
Tariff compliance statement	Not compliant	Not compliant	Not compliant	Not compliant	Not compliant

17.2. Reference tariff schedule compliance

Our view is that the Port has complied with clause 6.1 for the review period.

The reference tariff schedule sets out the Port's prescribed service tariffs for each financial year. The schedule also contains some explanatory information and for ease, it contains some non-prescribed tariffs and services that are on application so port users only need to refer to a single document. Clause 6.1 of the pricing order specifies when the Port needs to publish its reference tariff schedule for the forthcoming financial year's prices, necessary content and some other conditions.

We have reviewed all reference tariff schedules published during the review period, including the 2021-22 schedule that was released in May 2021. Refer to the following section for our review of the Port's amended 2019-20 reference tariff schedule.

Table 17.2: Summary of reference tariff schedules compliance with clause 6.1 (reference tariff schedule financial year (year that prices apply))

Year prices apply	2017-18	2018-19	2019-20	2020-21	2021-22
6.1.1 No later than 31 May (a) publish the RTS	Compliant	Compliant	Compliant	Compliant	Compliant
(b) provide commission with the RTS	Compliant	Compliant	Compliant	Compliant	Compliant
(c) provide commission with contracts under clause 6.2.1	Compliant	Compliant	Compliant	Compliant	Compliant
6.1.3 provide its RTS when requested	Compliant	Compliant	Compliant	Compliant	Compliant
6.1.4 content of RTS	Compliant	Compliant	Compliant	Compliant	Compliant
6.1.5 conditions for tariffs in the RTS	Compliant	Compliant	Compliant	Compliant	Compliant
6.1.6 offer tariffs in RTS to port users	Compliant	Compliant	Compliant	Compliant	Compliant
6.1.7 not require port user to acquire non-prescribed services to use prescribed services	Compliant	Compliant	Compliant	Compliant	Compliant

Note: tariffs in this table refer only to prescribed service tariffs and RTS refers to the reference tariff schedule. Clause 6.1.2 states the Port will satisfy clause 6.1.1(a) if it publishes its RTS on its website.

We queried whether the Port's mandatory security services for common user berths breached clause 6.1.7.[455] The Port explained that it is required to comply with the *Maritime Transport and Offshore Facilities Security Act 2003* (Cth) and the *Customs Act 1901* (Cth). [redacted] We are satisfied that the Port has not required port users to acquire non-prescribed services to receive prescribed services.

We couldn't find any evidence provided by the Port or stakeholder submissions to suggest the Port had not complied with clause 6.1.3.[456] In regard to clause 6.1.1(c), the Port provides copies of new contracts under clause 6.2.1 as part of its annual tariff compliance statement when it forecasts contract revenue for the forthcoming financial year. Refer also to assessment of clause 7.1.2(c) in this appendix and our assessment of contracts under clause 6.2 in Appendix 4.

17.3. Compliance of an amended reference tariff schedule

We find that the Port has complied with clause 6.3 for the review period.

The Port has amended its reference tariff schedule during 2019-20 as a result of the 20 May 2020 amendment to the pricing order for the Port Rail Transformation Project.[457] Clause 6.3.3 was introduced on 1 June 2020 to increase the 2019-20 'full – inward' wharfage fee from $110.77 (GST-exclusive) to $120.52 (GST-exclusive).[458]

On 31 January 2020, the Port notified the commission, port users and other stakeholders of its intention to amend its 2019-20 reference tariff schedule for the $9.75 (GST exclusive) increase to wharfage fees for 'containerised full – inward' from 1 April 2020. On 30 April 2020, the Port provided notice to the commission, port users and other stakeholders of its final amended version from 1 June 2020.

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455 Email from Port staff on 23 September 2021.

456 6.1.3 The Port must provide its reference tariff schedule in writing to any port user who requests it, within five business days of receiving the request. The considers this is largely met by publishing its reference tariff schedules on its website.

457 The Port has not made any other amendments to its reference tariff schedules, therefore clause 6.3 does not apply for the remainder of the review period.

458 Clause 6.3.4 was also introduced on 20 May 2020, but it does not apply because the gazettal of the pricing order amendment was before 1 July 2020. Clause 6.3.5 was introduced to reaffirm the existing clauses 6.3.1 and 6.3.2 on how to amend a reference tariff schedule.

We reviewed the Port's 2019-20 original reference tariff schedule and the amended 2019-20 reference tariff schedule to confirm the correct wharfage fee was increased in accordance with clause 6.3.3. This was also correctly included in the regulatory model for 2020-21 tariff compliance statement. The amended reference tariff schedule replaced the original schedule for the obligations in clause 6.3.2. We consider the Port provided 60 days notice of its intended amendment to the 2019-20 reference tariff schedule and 30 days notice of its final version in accordance with clause 6.3.1.

Based on the Port's process in 2019-20, we conclude the Port has complied with clause 6.3 for the review period.

17.4. Tariff compliance statement compliance

We find that the Port has not complied with clause 7 for the review period.

Every time the Port sets prices, it submits a tariff compliance statement to the commission to explain why its prescribed service tariffs are compliant with the pricing order. The Port has only set prices five times during the review period for the financial years 2017-18 to 2021-22.

Clause 7 specifies when the Port needs to publish its statement and the required content. We are required to assess whether each tariff compliance statement includes the required content and also whether the information included is sufficient to understand how the tariffs comply.[459]

We have reviewed the content of the Port's 2021-22 tariff compliance statement submitted on 31 May 2021 for compliance with clause 7 requirements, but we have not assessed the Port's "underlying" compliance of 2021-22 prices because that will form part of our inquiry for the period 1 July 2021 to 30 June 2026.[460]

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[459] Refer to paragraphs 38 in the legal advice provided to the commission by Peter Hanks QC and Catherine Dermody on inquiry scope, which can be found in Appendix 9.

[460] Refer to paragraphs 35-39 in the legal advice provided to the commission by Peter Hanks QC and Catherine Dermody on inquiry scope, which can be found in Appendix 9.

Table 17.3: Summary of tariff compliance statement compliance with clause 7 (tariff compliance statement financial year (year that prices apply))

Year prices apply	2017-18	2018-19	2019-20	2020-21	2021-22
7.1.1 Provide TCS by 31 May	Compliant	Compliant	Compliant	Compliant	Compliant
7.1.2 The Tariff Compliance Statement must:					
(a) set out tariffs	Compliant	Compliant	Compliant	Compliant	Compliant
(b) explain basis of tariff adjustments	Compliant	Compliant	Compliant	Compliant	Compliant
(c) provide information on contracts with under 6.2.1	Compliant	Compliant	Compliant	Compliant	Compliant
(d) set out process of consultation	Compliant	Compliant	Compliant	Not compliant	Not compliant
(e) explain how tariffs comply with the pricing order	Not compliant	Not compliant	Not compliant	Not compliant	Not compliant
(f) comply with information determination	Not applicable for the review period.				
(g) comply with information requirements in clause 8	Compliant	Compliant	Compliant	Not compliant	Not compliant

Note: tariffs in this table refer only to prescribed service tariffs and TCS refers to tariff compliance statement.

We found the Port was compliant with clause 7.1.1.

For the content of the tariff compliance statements we found the Port:

- Set out its prescribed service tariffs in compliance with clause 7.1.2(a) via its the regulatory model and reference tariff schedule appendices in each tariff compliance statement.
- The Port provided sufficient information on its adjustments within the tariffs adjustment limit as required by clause 7.1.2(b).
- Provided information on all contracts with Port Users in compliance with clause 7.1.2(c).
- Did not provide sufficient information to assess the Port's consultation under clause 7.1.2(d). Although the Port set out its consultation processes for the last two years, it did not sufficiently address how these processes constitute effective consultation. See also Chapter 12.
- Did not adequately explain its compliance with 7.1.2(e).
  In the 2017-18 and 2018-19 tariff compliance statements, the Port did not demonstrate:
  - how the prescribed service tariffs complied with the cost allocation principles, but in later years it developed its cost allocation model

- efficient cost bounds, which it also later developed to evidence its contract revenue and tariffs within prescribed service bundles comply with the pricing order.

  We agree with FTI Consulting's view that annual tariff compliance statements did not include sufficient information to assess the prudency and efficiency of operating and capital expenditure across the review period.[461]

- Was not required to comply with clause 7.1.2(f) during the review period.
- Was non-compliant with clause 7.1.2(g) (see our discussion of clause 8).[462]

We acknowledge the Port had a transition process initially and has improved its compliance in some areas over the review period. For example, while we found non-compliance with clause 7.1.2(e) in 2017-18 and 2018-19 tariff compliance statements for these reasons, in later years the Port developed an efficient cost bounds model and a cost allocation model to satisfy clause 7.1.2(e).

Although we have found some information deficiencies that do not comply with clause 7.1.2, we have had regard to the potential burden of the regulatory regime and that it does not outweigh the benefits of the regime. In this light, we consider the Port's non-compliance is not in a significant or sustained manner because it is appropriate for some information to only be provided during our five-yearly inquiries. We will work with the Port with the aim to find a balance in the information provided within the tariff compliance statements and for the five-yearly inquiries.

17.5. Information requirements

We find that the Port has not complied with clause 8 for the review period. We do not consider the non-compliance to be significant, but it was sustained.

Clause 8.1 of the pricing order requires financial information provided in a tariff compliance statement to specify whether it is in constant or current price terms. Clause 8.2 requires estimates or forecasts to be supported by a statement of the basis of the forecast or estimate, arrived on at a reasonable basis and represent the best forecast or estimate possible in the circumstances. Clause 8.3 sets requires extrapolation or inference to be supported by primary information.

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[461] [redacted]

[462] Clause 7.1.2(g) of the pricing order states that the tariff compliance statement must comply with the requirements in clause 8.

The Port was compliant with clause 8.1 in all tariff compliance statements provided within the review period.

The Port's tariff compliance statements complied with clause 8.2.1 during the review period. We noted in section 10.1 that we saw some inconsistency between the demand forecasts in the tariff compliance statements and the forecasting models were unexplained, particularly in year 2019-20 and 2020-21.

We consider the Port's forecast operating expenditure has not complied with clause 8.2.2 in its 2019-20 and 2020-21 tariff compliance statements because the forecasts were not arrived at on a reasonable basis and do not represent the best forecast possible in the circumstances. Refer to Chapter 6 for more on operating expenditure.

Across all other data areas we found no non-compliances for clause 8. Overall, the Port's non-compliance with clause 8 is not sustained because the differing types of non-compliances have been fleeting over the review period. We also do not consider the non-compliances to be significant because operating expenditure is not material for the review period due to prices being limited by the tariffs adjustment limit.

We note that clauses 9 and 10 of the pricing order do not apply during the review period. The commission has not made a determination on either:

- what constitutes 'sufficient supporting information'[463]
- an appropriate replacement for any index, externally published statistic or set of statistics.[464]

[463] Clause 9.1.1 states the determination is 'for the purposes of clauses 3.2.7, 3.3.2 and 7.1.2(f)', and should be read along with clauses 9.1.2 and 9.1.3.

[464] Clause 10.1.1 states the commission may determine indices to be used if one referred to the pricing order 'ceases to be published, changes in title or is otherwise amended in a material respect'.

Appendix 6: Consultation with port users

This appendix provides further detail on the Port's four key programs in the review period, which we introduced in Chapter 12. For each program, we have described the Port's engagement processes.

18.1. Industry updates

The Port's engagement processes during the review period:

- Ran from January to May (in 2016-17), July to May (in 2017-18), across the year (in 2018–20), and from March to April (in 2020-21).
- Included meetings, workshops, forums, surveys, and email communications to inform port users about updates and consult with them on key proposals.
- Delivered presentations to port users, industry groups, government and community stakeholders in various formats and locations, such as Hobart, Wagga Wagga, Sydney and other regional centres.
- Covered the regulatory framework, pricing, trends in trade/cargo types, port development and planning, significant capital projects, supply chain efficiency and the Port's engagement program.

18.2. Port Development Strategy

The Port's engagement processes during the review period:

- Ran from August to October 2018 (discussion paper) and then from June to December 2019 (draft development strategy). The final port development strategy was released on 6 October 2020.
- Included over 40 briefings and meetings during the consultation period. The Port contacted more than 100 stakeholders via email regarding submissions for the strategy.
- Included briefings with and requests for comment from community groups, local government, boards, ministerial meetings, industry groups, Tasmanian customers, government agencies.
- Heard stakeholder views on a diverse range of topics such as:
  - The potential for technology to change and improve Australia's transport and logistics.
  - Developing rail transport from the Port and the need to move more freight by rail.
  - The need to manage truck congestion and traffic through residential areas, as well as the quality of the truck vehicle fleet.
  - Compliance with environmental obligations and the Port's long-term sustainability.

18.3. Rail Access Strategy and Port Rail Transformation Project

This program informed the Port Development Strategy. The Port's engagement processes during the review period:

- Ran between 2016 and March 2019 for the Rail Access Strategy. Concurrently, the Port Rail Shuttle Network concept development was consulted on in 2018.[465] Feedback captured led to the development of the Port Rail Transformation Project proposal provided to the Government in March 2019.[466]
- Engaged with port rail terminal operators, intermodal terminal operators, rail service providers, network access providers and industry associations.
- Involved survey questionnaires followed by workshops, one-on-one discussions, industry forums, interviews and presentations to rail access seekers and rail operators and notifications about the tariff increase implemented for funding purposes.
- Covered topics including user requirements of a rail solution, hard infrastructure requirements, operational changes, and industry reform. The Port sought Government approval to fund the Port Rail Transformation Project via an amendment to the pricing order to increase the full import container wharfage tariff.
- [redacted]

18.4. Big Ships Strategy

This program informed the Port Development Strategy. The Port's engagement processes during the review period:

- Ran from Feb 2018 to May 2021.
- Included a range of sessions and workshops with individual stakeholders, such as public meetings, email communications and industry updates to inform port users about updates. Most of the engagement for the Big Ships Strategy was part of the Port's consultation to inform the development of the Port Development Strategy.

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[465] Under the Port Management Act 1995 (Vic), the Rail Access Strategy was deliverable by 31 October 2019 and improved rail infrastructure options had to be capable of being implemented within five years. The Port Rail Shuttle Network only focussed on infrastructure delivery to support increased rail mode shift.

[466] [redacted]

- Delivered presentations to port users, industry groups, government and community stakeholders and engaged directly with the impacted shipping lines, stevedores and Harbour Master. Covered topics on the three main projects including shipping and dredging optimization, simulations to accommodate larger vessels at Swanson Dock East and West upgrades to improve the strength of the mooring infrastructure and Webb Dock East southern mooring dolphin and future extension works at berths 4 and 5.
- Provided stakeholders updates on its Big Ships Strategy, which included information about Webb Dock East over the review period.

Appendix 7: Submissions received

A summary of the key themes of our engagement and public submissions can be found on our website. Some of the public submissions received also have a confidential version. We have treated these as one submission. Please note that we are not able to release confidential or commercially sensitive information.

Date	Name or organisation
12 August 2021	Confidential
18 August 2021	Butler Freight Services
21 August 2021	Anonymous
24 August 2021	Anonymous
25 August 2021	Patrick Terminals
26 August 2021	Shipping Australia Limited
30 August 2021	ANL Container Line
2 September 2021	Victorian International Container Terminal
3 September 2021	Port of Melbourne
3 September 2021	Freight & Trade Alliance
3 September 2021	Maritime Union of Australia
3 September 2021	Port of Melbourne Shareholder Group
3 September 2021	Confidential
3 September 2021	Confidential
3 September 2021	Patrick Terminals
8 September 2021	Quantem
11 October 2021	Patrick Terminals
14 October 2021	Port of Melbourne
26 November 2021	Confidential

Appendix 8: Check against pricing order 2016

	Pricing order clause	Addressed in our report:
2.1	**Prescribed Service Tariffs Pricing Principles**	
2.1.1	Prescribed Service Tariffs must be set so as: (a) to allow the Port Licence Holder a reasonable opportunity to recover the efficient cost of providing all Prescribed Services determined by application of an accrual building block methodology of the type described in clause 4 (Aggregate Revenue Requirement); and	Chapter 11 Prescribed service tariffs and Appendix 4 Prescribed services pricing
	(b) subject to clauses 2.1.1(a), 2.2, 2.3.1 and 3, to allow the Port Licence Holder a reasonable opportunity to recover, for each Prescribed Service Bundle, revenue that: (i) does not exceed an upper bound representing the stand alone cost of providing the Prescribed Service Bundle; and (ii) does not fall below a lower bound representing the avoidable cost of not providing the Prescribed Service Bundle.	Chapter 11 Prescribed service tariffs and Appendix 4 Prescribed services pricing
2.1.2	The Port Licence Holder may set different Prescribed Service Tariffs for different users of the same or similar Prescribed Service, provided that such differences are consistent with the objectives set out in section 48 of the Act and clauses 2.1.3, 2.2.1 and 2.3.1.	Chapter 11 Prescribed service tariffs and Appendix 4 Prescribed services pricing
2.1.3	The Port Licence Holder must set the level and structure of Prescribed Service Tariffs having regard to: a) the efficient costs caused by Port Users of the relevant Prescribed Service; b) transaction costs; and c) the extent to which Port Users are able or likely to respond to price signals.	Chapter 11 Prescribed service tariffs and Appendix 4 Prescribed services pricing
2.1.4	The principle in clause 2.1.1(b) does not apply to the extent that the Port Licence Holder expects to derive revenue from: a) any applicable Initial Prescribed Service Tariff; or b) during the period in which clause 3.1.1 applies, any subsequent increase to any Initial Prescribed Service Tariff (as may be varied from time to time due to the acceptance of a Final Rebalancing Application under clause 3.2.18) that does not exceed the Tariffs Adjustment Limit; or	No assessment required.

	c) in any period in which clause 3.1.1 no longer applies, any subsequent increase to any Initial Prescribed Service Tariff that does not exceed the rate of change in the Aggregate Revenue Requirement over a corresponding period, that would exceed the stand alone cost of providing the Prescribed Service Bundle.	
2.1.5	For the avoidance of doubt, other than as provided in clause 2.1.1(b), or as may be required to comply with the principles in clauses 2.1.2 and 2.1.3, this Order establishes maximum tariffs for Prescribed Services and a Port Licence Holder will not be in breach of this Order if it sets actual tariffs for Prescribed Services at a level that is lower than permitted under clause 2.1.1(a) in any relevant period.	No assessment required.
2.1.6	The Port Licence Holder must not recover Rail Asset Costs other than by a Prescribed Service Tariff for 'Full – inward' Wharfage Fees.	Chapter 11 Prescribed service tariffs and Appendix 4 Prescribed services pricing
2.2	**Specific Shared Channel Tariffs Pricing Principles**	
2.2.1	In addition to complying with the principles set out in clauses 2.1, 2.3.1 and 3.1.1, the Port Licence Holder must set Prescribed Service Tariffs for the use of the Shared Channels: (a) by application of the same accrual building block methodology and parameters that are utilised in determining Prescribed Service Tariffs for the Dedicated Channels, including without limitation in relation to establishing: (i) an allowance to recover return on the applicable capital base; (ii) an allowance to recover return of the applicable capital base; and (iii) an allowance to recover its forecast of applicable operating expenses, (see clause 4); and (b) so as not to otherwise discriminate between Port Users on the basis of port or berth.	Chapter 11 Prescribed service tariffs and Appendix 4 Prescribed services pricing
2.3	**Container export pricing decision**	
2.3.1	Notwithstanding any other provision of this Order, the Port Licence Holder must maintain and comply with the Export Pricing Decision when setting Prescribed Service tariffs for full outbound container wharfage services.	Chapter 11 Prescribed service tariffs and Appendix 4 Prescribed services pricing
3.1	**Tariffs Adjustment Limit**	
3.1.1	In addition to complying with clause 2, but subject to clause 3.1.2, the Weighted Average Tariff Increase implied by the Prescribed Service Tariffs set by the Port Licence Holder in respect of any Financial Year commencing on or after 1 July 2017 must not exceed the Tariffs Adjustment Limit.	Chapter 11 Prescribed service tariffs and Appendix 4 Prescribed services pricing

3.1.2	Clauses 3.1.1 and 3.2.1 do not apply to an amendment to the Prescribed Service Tariff for 'Full – inward' Wharfage Fees under clause 6.3.3 or clause 6.3.4.	Chapter 11 Prescribed service tariffs and Appendix 4 Prescribed services pricing
3.1.3	For the avoidance of doubt, following an amendment to the Prescribed Service Tariff for 'Full – inward' Wharfage Fees under clause 6.3.3 or clause 6.3.4, clause 3.1.1 will apply to the Weighted Average Tariff Increase implied by the Prescribed Service Tariffs set by the Port Licence Holder and clause 3.2 will apply to the Prescribed Service Tariff for 'Full – inward' Wharfage Fees'	Chapter 11 Prescribed service tariffs and Appendix 4 Prescribed services pricing
3.2	**Rebalancing**	
3.2.1	Subject to the Commission's acceptance of a Final Rebalancing Application under clause 3.2.18 (or pursuant to an appeal under Part 7 of the *Essential Services Commission Act 2001* (Vic)), the Port Licence Holder may only revise each Prescribed Service Tariff (other than, in the period prior to the start of the 2020 Financial Year, Prescribed Service Tariffs that are subject to the Export Pricing Decision) in respect of a Financial Year by the same percentage adjustment.	Appendix 4 Prescribed services pricing
3.2.2	The Commission must accept a Final Rebalancing Application under clause 3.2.18 if it is satisfied that the proposed Prescribed Service Tariffs the subject of the Final Rebalancing Application comply with clauses 2, 3.1.1, 4 and 5.	No assessment required.
3.2.3	The Port Licence Holder may not introduce a new Prescribed Service Tariff unless the proposed new Prescribed Service Tariff is the subject of a Final Rebalancing Application accepted by the Commission under clause 3.2.18.	Appendix 4 Prescribed services pricing
3.2.4	*Making a Rebalancing Application* Except in relation to Prescribed Service Tariffs that are subject to the Export Pricing Decision, prior to 1 January of any Financial Year commencing on or after 1 July 2017, the Port Licence Holder may make a written application to the Commission which proposes that, subject to compliance with clauses 2, 3.1.1, 4 and 5: (a) certain Prescribed Service Tariffs for the upcoming Financial Year be revised by different percentage adjustments; (b) that a new Prescribed Service Tariff be introduced; and/or (c) that an existing Prescribed Service Tariff be discontinued, (Rebalancing Application).	No assessment required.

3.2.5	Prior to making a Rebalancing Application, the Port Licence Holder must consult Port Users about its proposal to do so and provide a reasonable opportunity for Port Users to express their views to the Port Licence Holder.	Appendix 4 Prescribed services pricing
3.2.6	The Port Licence Holder must utilise a reasonable estimate of the upcoming March CPI for the purpose of calculating the Tariffs Adjustment Limit in a Rebalancing Application submitted prior to the March CPI Release Date.	Appendix 4 Prescribed services pricing
3.2.7	The Rebalancing Application must contain sufficient supporting information to enable the Commission to verify that the proposed Prescribed Service Tariffs comply with clauses 2, 3.1.1, 4 and 5.	Appendix 4 Prescribed services pricing
3.2.8	*Interim Decision by the Commission.* Subject to compliance with clause 3.2.7, the Commission must notify the Port Licence Holder in writing of either its: (a) interim acceptance of the Rebalancing Application; or (b) intention to reject the Rebalancing Application, before 1 March of the Financial Year preceding the Financial Year to which the Rebalancing Application relates (Interim Decision). If notification has not been given within that timeframe, the Commission shall be deemed to have given its interim acceptance to the Rebalancing Application.	No assessment required.
3.2.9	Where the Commission has not received sufficient supporting documentation from the Port Licence Holder in accordance with any relevant determination made under clause 9, the timeframe specified in clause 3.2.8 may be extended at the Commission’s discretion by any period starting on the day the Commission requests further information from the Port Licence Holder and ending on the day that the Port Licence Holder complies with that request.	No assessment required.
3.2.10	The Commission must grant interim acceptance to a Rebalancing Application under clause 3.2.8 if it is satisfied that the proposed Prescribed Service Tariffs the subject of the Rebalancing Application comply with clauses 2, 3.1.1, 4 and 5.	No assessment required.
3.2.11	Where the Commission notifies the Port Licence Holder under clause 3.2.8 of the Commission’s intention to reject the Rebalancing Application, the Commission must provide in that notification reasons for its intended rejection.	No assessment required.
3.2.12	Where the Commission is required to utilise the upcoming March CPI prior to the March CPI Release Date as part of making its Interim Decision, the Commission must adopt a reasonable estimate of the March CPI.	No assessment required.
3.2.13	*Amended Rebalancing Application*	No assessment required.

	Where the Commission notifies the Port Licence Holder under clause 3.2.8 of the Commission's intention to reject the Rebalancing Application, the Port Licence Holder may submit to the Commission an amended Rebalancing Application (Amended Rebalancing Application) within thirty (30) days of receipt of that notification.	
3.2.14	An Amended Rebalancing Application submitted to the Commission under clause 3.2.13 must comply with clause 3.2.7.	No assessment required.
3.2.15	*Final Rebalancing Application* The Port Licence Holder must submit to the Commission an updated version of its Rebalancing Application or Amended Rebalancing Application (as applicable), utilising the actual March CPI released on the March CPI Release Date (Final Rebalancing Application), within seven days after the March CPI Release Date.	No assessment required.
3.2.16	Subject to clause 3.2.17, where the Commission has not received the Final Rebalancing Application within the timeframe specified in clause 3.2.15, the Commission shall be deemed to have finally rejected the Rebalancing Application or Amended Rebalancing Application (as applicable).	No assessment required.
3.2.17	The deadline in clause 3.2.15 may be extended at the Commission's discretion.	No assessment required.
3.2.18	*Final decision by the Commission* Subject to compliance with clause 3.2.7, the Commission must notify the Port Licence Holder in writing of its final acceptance or rejection of the Final Rebalancing Application within seven days after receiving the Final Rebalancing Application. If notification has not been given within that timeframe, the Commission shall be deemed to have accepted the Final Rebalancing Application.	No assessment required.
3.2.19	Where the Commission has not received sufficient supporting documentation from the Port Licence Holder in accordance with any relevant determination made under clause 9, the timeframe specified in clause 3.2.18 may be extended at the Commission's discretion by any period starting on the day the Commission requests further information from the Port Licence Holder and ending on the day that the Port Licence Holder complies with that request.	No assessment required.
3.2.20	Where the Commission notifies the Port Licence Holder under clause 3.2.18 of the Commission's rejection of the Final Rebalancing Application, the Commission must provide in that notification reasons for its rejection.	No assessment required.
3.3	Duration of application of clause 3	
3.3.1	The Port Licence Holder may, no earlier than 30 June in the Financial Year in which the fifteenth anniversary of the Commencement Date falls, make an application to the Commission for a determination that clause 3 ceases to apply.	No assessment required.

3.3.2	An application under clause 3.3.1 must contain sufficient supporting information to enable the Commission to be satisfied of the matters specified in clause 3.3.3.	No assessment required.
3.3.3	The Commission must issue a determination that clause 3 ceases to apply if satisfied that the application of the principles in clause 2.1.1 would result in Prescribed Service Tariffs for the Financial Year in which the application is made and the two Financial Years immediately following that are likely to be lower than would be permitted under clause 3.1.1.	No assessment required.
3.3.4	The Commission must in writing notify the Port Licence Holder of the outcome of an application under clause 3.3.1 within ninety (90) days of receipt of the application.	No assessment required.
3.3.5	In the absence of a determination by the Commission under clause 3.3.3, clause 3 ceases to apply at the end of the Financial Year in which the twentieth anniversary of the Commencement Date falls.	No assessment required.
3.4	Specification of pricing order transition period	
3.4.1	For the purposes of the Act, the 'Pricing order transition period' is the period commencing on the Commencement Date and ending on the date on which, pursuant to clause 3.3, clause 3 ceases to apply.	No assessment required.
4.1	**General – Accrual Building Block Methodology**	
4.1.1	For the purposes of determining its Aggregate Revenue Requirement, the Port Licence Holder must apply an accrual building block methodology over the Regulatory Period comprising: a) an allowance to recover a return on its capital base, commensurate with that which would be required by a benchmark efficient entity providing services with a similar degree of risk as that which applies to the Port Licence Holder in respect of the provision of the Prescribed Services (see clauses 4.2 and 4.3); b) an allowance to recover the return of its capital base (see clause 4.4); and c) an allowance to recover its forecast operating expenses, commensurate with that which would be required by a prudent service provider acting efficiently (see clause 4.5); less d) an indexation allowance (see clause 4.6).	Chapter 5 Return on capital Chapter 4 Our views on the degree of non-compliance Chapter 6 Operating Expenditure Chapter 8 Depreciation
4.2	**Capital Base**	
4.2.1	Subject to clause 4.2.2 and the increase to the capital base under clause 4.2.9, the capital base applied for the purposes of clause 4.1.1(a) and 4.1.1(b) must be defined, at any particular time, on a roll forward basis, by: a) taking the value at the commencement of any Financial Year;	Chapter 4 Our views on the degree of non-compliance Chapter 7 Capital expenditure Chapter 8 Depreciation

	b) adding an indexation allowance for that Financial Year in accordance with clause 4.6.1(a); c) adding efficient capital expenditure when incurred, or to be incurred during the Financial Year, by the Port Licence Holder, acting prudently, in the provision of the Prescribed Services (in each instance, deemed to be incurred as at the mid-point of that Financial Year and adjusted by an indexation allowance in accordance with clause 4.6.1(b) for that Financial Year); and d) deducting an allowance for the return of capital.	
4.2.2	The initial capital base is to be determined by applying the asset values specified in clause 4.7.	Chapter 4 Our views on the degree of non-compliance
4.2.3	PCP Capital Expenditure is to be added to the capital base in accordance with the principles in clause 4.2.1.	Chapter 4 Our views on the degree of non-compliance Chapter 7 Capital expenditure
4.2.4	The act of completing the Port Capacity Project and the act of undertaking capital works so as to comply with a term of the Port Lease or any other obligation arising under a Transaction Arrangement are to be taken to be prudent acts for the purposes of clause 4.2.1.	Chapter 7 Capital expenditure
4.2.5	For avoidance of doubt, clause 4.2.4 does not preclude an assessment as to whether capital expenditure undertaken so as to comply with a term of the Port Lease or any other obligation under a Transaction Arrangement has been incurred efficiently.	Chapter 7 Capital expenditure
4.2.6	For the avoidance of doubt, the capital base of the Port Licence Holder must not include any value attributable to capital contributions made by a Public Sector Entity to assets used to provide Prescribed Services after the date of the completion of the first Authorised Transaction.	Chapter 7 Capital expenditure
4.2.7	Actions by the Port Licence Holder to: a) acquire the Existing Rail Assets; or b) undertake capital expenditure reasonably necessary to achieve the Rail Asset Deliverables, are taken to be prudent acts for the purposes of clause 4.2.1.	Chapter 7 Capital expenditure
4.2.8	For the avoidance of doubt, clause 4.2.7 does not preclude an assessment as to whether capital expenditure undertaken in accordance with clause 4.2.7(b) has been incurred efficiently.	Chapter 7 Capital expenditure
4.2.9	Capital expenditure incurred to acquire the Existing Rail Assets will be deemed for the purposes of this Order to be valued as at 1 January 2020 at A$21,400,000 and that amount must be added to the capital base at the commencement of the Financial Year following completion of the relevant acquisition without application of the principles in clause 4.2.1(c) to the Existing Rail Assets added to the capital base.	Chapter 7 Capital expenditure

4.2.10	Capital expenditure incurred in accordance with clause 4.2.7(b) is to be added to the capital base in accordance with the principles in clause 4.2.1.	Chapter 7 Capital expenditure
4.3	**Return on Capital**	
4.3.1	Subject to clause 4.3.2, in determining a rate of return on capital for the purposes of clause 4.1.1(a) the Port Licence Holder must use one or a combination of 'well accepted' approaches that distinguish the cost of equity and debt, and so derive a weighted average cost of capital.	Chapter 5 Return on capital
4.3.2	The rate of return to be calculated for the purposes of clause 4.1.1(a) must be determined on a pre-tax, nominal basis.	Chapter 4 Our views on the degree of non-compliance (footnote) Chapter 5 Return on capital (footnotes)
4.4	**Return of Capital**	
4.4.1	Subject to clauses 4.4.2 and 4.4.3, for the purposes of clauses 4.1.1(b), depreciation must be determined so that each asset or group of assets used to provide the Prescribed Services is depreciated using a straight-line methodology over a period that is: a) no shorter than the reasonable economic life of the relevant asset or the remaining term of the Port Lease (whichever is shorter); and b) no longer than the remaining term of the Port Lease, (Depreciation Period); and c) only once, meaning that the amount by which the asset or group of assets is depreciated over the Depreciation Period does not exceed the value of the asset or group of assets at the time of its or their inclusion in the capital base.	Chapter 4 Our views on the degree of non-compliance (footnote) Chapter 8 Depreciation
4.4.2	The Port Licence Holder may only use an alternative to the straight-line methodology to be applied under clause 4.41 if: a) the application of clause 3.1.1 means that the return of capital derived using a straight-line depreciation methodology is not capable of being recovered in the applicable Financial Year; or b) the alternative depreciation methodology is reasonably likely to reduce the variance in the expected annual percentage changes in the level of Prescribed Services Tariffs through to the end of the Port Lease.	Chapter 4 Our views on the degree of non-compliance (footnote) Chapter 8 Depreciation
4.4.3	The return of capital allowance in any Financial Year must not be below zero.	Chapter 8 Depreciation
4.5	**Operating Expenses**	

4.5.1	For the avoidance of doubt, the allowance referred to in clause 4.1.1(c) is to include an amount equal to the Port Licence Fee and any Cost Contribution Amount payable under the Port Concession Deed in respect of the relevant Financial Year in which those expenses are incurred and such amounts are deemed to be commensurate with that which would be required by a prudent service provider acting efficiently.	Chapter 4 Our views on the degree of non-compliance
4.5.2	Actions reasonably required to comply with the obligations of the Port Licence Holder under the Port Concession Deed are taken to be prudent acts for the purposes of clause 4.1.1(c).	Chapter 4 Our views on the degree of non-compliance
4.5.3	Subject to clause 4.5.6, actions taken by the Port Licence Holder to agree with a Designated Port Tenant(s) to excise a Designated Area from a Designated Lease (such that the Designated Areas revert to exclusive possession of the Port Licence Holder) and to utilise those Designated Areas for the purposes of the Project (including without limitation by the entry into an ROL(s) permitting third party use of those Designated Areas) are taken to be prudent acts for the purposes of clause 4.1.1(c).	Chapter 4 Our views on the degree of non-compliance Chapter 6 Operating Expenditure
4.5.4	Subject to clauses 4.5.5 and 4.5.6, the allowance referred to in clause 4.1.1(c) is, on and from 1 June 2020, to include an amount equal in any Financial Year to the sum of the following amounts: a) the area (in square metres) of each Designated Area multiplied by the prevailing annual rent per square metre (exclusive of outgoings) under the corresponding Designated Lease from which the Designated Area was excised; and b) actual third party outgoings (including without limitation land tax and council rates) incurred by the Port Licence Holder in respect of the Designated Area in relation to a relevant Financial Year that, but for the excision of the Designated Area from the corresponding Designated Lease (pursuant to an act described in clause 4.5.3), would have been recoverable by the Port Licence Holder from the Designated Tenant, and such sum is deemed to be commensurate with that which would be required by a prudent service provider acting efficiently.	Chapter 4 Our views on the degree of non-compliance Chapter 6 Operating Expenditure
4.5.5	If a Designated Lease is amended, expires or is terminated (and is not renewed, extended or replaced on substantially similar terms) such that it no longer operates as an appropriate benchmark for calculating the amount in clause 4.5.4, then in place of the prevailing annual rent per square metre (exclusive of outgoings) under that Designated Lease, the amount in clause 4.5.4(a) must be calculated for that Designated Area using the weighted average annual rent payable (exclusive of outgoings) per square metre for Unimproved Port Land that is the subject of leases of other Designated Areas between the Port Licence Holder and the remaining Designated Port Tenants in the relevant Financial Year.	No assessment required.
4.5.6	If, and to the extent that any part of a Designated Area:	No assessment required.

	a) ceases to be reserved for use, or is not used, for the purpose of the Project or is used for any alternative use by the Port Licence Holder; or b) relates to land on which rail use has been adversely impacted due to a change in use of the surrounding Leased Area (as defined in the Port Lease), the Designated Area will be reduced to that extent and no allowance referable to that part of a Designated Area must be included in the allowance calculated under clause 4.5.4 or otherwise be deemed to be an amount commensurate with that which would be required by a prudent service provider acting efficiently.'.	
4.6	**Indexation Allowance**	
4.6.1	For each relevant Financial Year, the indexation allowance referred to in clause 4.1.1(d) is an amount equal to the sum of: a) for the purposes of clause 4.2.1(b), the percentage change, or forecast percentage change, in the CPI for the relevant Financial Year, multiplied by the value of the capital base at the commencement of the relevant Financial Year; and b) for the purposes of clause 4.2.1(c), one half of the percentage change, or forecast percentage change, in the CPI for the relevant Financial Year, multiplied by the efficient capital expenditure when incurred, or to be incurred during that Financial Year.	Chapter 4 Our views on the degree of non-compliance
4.7	**Initial Capital Asset Values**	
4.7.1	Despite any other clause of this Order, the initial capital asset values to be utilised to provide the Shared Channel Services and the Bundled Services are deemed to be as set out below (as at 1 July 2016): • shared channel services - $592m • bundled Services - $2,913m • total - $3,505m.	Chapter 4 Our views on the degree of non-compliance (footnote)
4.7.2	For the avoidance of doubt, the initial capital asset values in the table in clause 4.7.1 exclude PCP Capital Expenditure, which is to be added to the capital base in accordance with the principles in clause 4.2.3.	Chapter 4 Our views on the degree of non-compliance (footnote)
5.1	**Cost Allocation Principles Objectives**	
5.1.1	The objective of the Cost Allocation Principles is to provide a transparent and consistent methodology for allocating and monitoring costs for the purpose of setting Prescribed Service Tariffs.	Chapter 9 Cost allocation and Appendix 3 Cost allocation principles
5.2	Principles for allocating costs for the purpose of setting Prescribed Service Tariffs	

5.2.1	Costs of the Port Licence Holder must be allocated between Prescribed Services and all other services provided by the Port Licence Holder in a manner consistent with the following cost allocation principles: a) costs that are directly attributable to the provision of the Prescribed Service must be attributed to that Prescribed Service b) costs that are not directly attributable to the provision of the Prescribed Service but which are incurred in the course of providing both one or more Prescribed Services and other services must be allocated to the Prescribed Service on the basis of its share of total revenue from all services provided by the Port Licence Holder, (Cost Allocation Principles).	Chapter 9 Cost allocation and Appendix 3 Cost allocation principles
6.1	**Provision/Publication of Reference Tariff Schedule**	
6.1.1	No later than 31 May in each Financial Year, the Port Licence Holder must: a) publish its Reference Tariff Schedule for the following Financial Year b) provide the Commission with a copy of its Reference Tariff Schedule for the following Financial Year c) provide the Commission with copy of any contracts with Port Users of the kind described in clause 6.2.1 under which Prescribed Services are to be supplied in the Following Year.	Appendix 5 Reference tariff schedules and tariff compliance statements
6.1.2	The Port Licence Holder will satisfy the publication obligation in clause 6.1.1(a) if it publishes its Reference Tariff Schedule on its website.	Appendix 5 Reference tariff schedules and tariff compliance statements
6.1.3	The Port Licence Holder must provide its Reference Tariff Schedule, as published under clause 6.1.1(a), in writing to any Port Users who requests it, within 5 Business Days of receiving the request.	Appendix 5 Reference tariff schedules and tariff compliance statements
6.1.4	The Reference Tariff Schedule must specify: the Prescribed Service Tariff for each Prescribed Service offered by the Port Licence Holder; and a description of the Prescribed Service to which the Prescribed Service Tariff applies.	Appendix 5 Reference tariff schedules and tariff compliance statements
6.1.5	Prescribed Service Tariffs that are specified in the Reference Tariff Schedule must: • not include charges or fees for services that are not Prescribed Services • separately identify the Prescribed Service Tariffs for Shared Channel Services.	Appendix 5 Reference tariff schedules and tariff compliance statements
6.1.6	The Port Licence Holder must offer to provide Port Users with Prescribed Services in accordance with the Reference Tariff Schedule.	Appendix 5 Reference tariff schedules and tariff compliance statements

6.1.7	The Port Licence Holder must not require a Port User to acquire services that are not Prescribed Services in order for that Port User to be supplied with Prescribed Services.	Appendix 5 Reference tariff schedules and tariff compliance statements
6.2	**Contracts for Prescribed Services**	
6.2.1	The Port Licence Holder may enter into a contract with a Port User for the supply of Prescribed Services on terms and conditions that: (a) differ from those specified in the Reference Tariff Schedule; or (b) do not satisfy the requirements in clause 6.1.5, but only if: (c) the Port Licence Holder has first offered to provide those Prescribed Services to that Port User in accordance with the Reference Tariff Schedule (as required by clause 6.1.6); and (d) the contracted terms and conditions comply with the principles set out in clauses 2.1.1, 2.1.2, 2.1.3 and 2.3.1.	Appendix 3 Cost allocation principles Appendix 4 Prescribed services pricing
6.2.2	For the avoidance of doubt, despite the entry into a contract with a Port User as contemplated by clause 6.2.1: (a) the services provided under the contract remain Prescribed Services; and (b) revenue from the Prescribed Services provided under all such contracts must be included in the Port Licence Holder's calculation of its Aggregate Revenue Requirement under clause 2.1.1.	Appendix 4 Prescribed services pricing
6.3	**Changes to Prescribed Service Tariffs**	
6.3.1	During a Financial Year and in addition to the requirements in clause 2.3.1, if the Port Licence Holder seeks to amend its Reference Tariff Schedule in order to charge for a new or additional service as part of a Prescribed Service, or for any other reason, it must: (a) notify Port Users and the Commission of its intention to do so by providing its proposed amendments to the Reference Tariff Schedule sixty (60) days prior to its earliest date of effect; and (b) provide Port Users and the Commission with thirty (30) day's notice of the final version of the amended Reference Tariff Schedule.	Appendix 5 Reference tariff schedules and tariff compliance statements
6.3.2	For the avoidance of doubt, if the Port Licence Holder amends its Reference Tariff Schedule in accordance with clause 6.3.1, from the date the amendments come into effect: (a) the new Reference Tariff Schedule will replace the previous Reference Tariff Schedule; and (b) the obligations in clauses 6.1.3 to 6.1.7 and in clause 6.2 will apply in respect of the new Reference Tariff Schedule.	Appendix 5 Reference tariff schedules and tariff compliance statements

6.3.3	Subject to clause 6.3.4, the Reference Tariff Schedule for the Financial Year commencing 1 July 2019 is amended to increase the Prescribed Service Tariff for 'Full – inward' Wharfage Fees from $110.77 (GST-exclusive) to $120.52 (GST-exclusive) on and from the later of 1 June 2020 and the date of gazettal of the amendments to this Order introducing this clause 6.3.3.	Appendix 5 Reference tariff schedules and tariff compliance statements
6.3.4	If the date of gazettal of the amendments to this Order introducing clause 6.3.3 is on or after 1 July 2020, then clause 6.3.3 will not apply and instead the Reference Tariff Schedule for the Financial Year in which that date of gazettal occurs will be amended on and from the date of gazettal to increase the Prescribed Service Tariff for 'Full – inward' Wharfage Fees (as otherwise applying) by an amount equal to $9.75 (GST-exclusive) increased by the percentage change in CPI (if any) between the March CPI published for 2019 and the March CPI published most recently prior to that date of gazettal of the amendments to this Order.	Appendix 5 Reference tariff schedules and tariff compliance statements
6.3.5	For the avoidance of doubt, clauses 6.3.1 and 6.3.2 apply to the Reference Tariff Schedule as amended by clause 6.3.3 or 6.3.4.'	No assessment required
7.1	**Tariff Compliance Statement**	
7.1.1	The Port Licence Holder must provide to the Commission a Tariff Compliance Statement: (a) no later than 31 May in each Financial Year; and (b) where Prescribed Service Tariffs are to be varied or a new Prescribed Service Tariff is to be introduced (except for the amendment to the Prescribed Service Tariff for 'Full – inward' Wharfage Fees under clause 6.3.3 or clause 6.3.4), at the same time as it notifies Port Users and the Commission under clause 6.3.1(b).	Appendix 5 Reference tariff schedules and tariff compliance statements
7.1.2	The Tariff Compliance Statement must: (a) set out the Prescribed Service Tariffs for the forthcoming Financial Year (where clause 7.1.1(a) applies) or for the remainder of the Financial Year (where clauses 7.1.1(b) applies); (b) provide information detailing the basis by which adjustments to, or introduction of new, Prescribed Service Tariffs have been made, including the cost building blocks that have been applied and the basis on which the rate of return has been determined; (c) provide information on all contracts with Port Users of the kind described in clause 6.2.1 and the basis on which they comply with clause 6.2.1; (d) set out the process by which the Port Licence Holder has effectively consulted and had regard to the comments provided by Port Users. (e) explain how the Prescribed Service Tariffs comply with this Order, including the Pricing Principles and Cost Allocation Principles; (f) contain any other sufficient supporting information determined by the Commission under clause 9; and (g) comply with the requirements in clause 8.	Chapter 11 Prescribed service tariffs Chapter 12 Consultation with port users Appendix 5 Reference tariff schedules and tariff compliance statement

8.1	**Basis on which financial information is to be provided**	
8.1.1	Subject to requirements for application of the building block methodology in clause 4, any financial information provided in a Tariff Compliance Statement must specify whether it is denominated in constant or current price terms.	Appendix 5 Reference tariff schedules and tariff compliance statements
8.2	**Forecasts and estimates**	
8.2.1	Information in the nature of an estimate or forecast must be supported by a statement of the basis of the forecast or estimate.	Chapter 6 Operating expenditure Chapter 11 Demand Appendix 5 Reference tariff schedules and tariff compliance statements
8.2.2	A forecast or estimate: must be arrived at on a reasonable basis; and must represent the best forecast or estimate possible in the circumstances.	Chapter 6 Operating Expenditure Chapter 11 Demand Appendix 5 Reference tariff schedules and tariff compliance statements
8.3	**Inferred or derivative information**	
8.3.1	Information in the nature of an extrapolation or inference must be supported by the primary information on which the extrapolation or inference is based.	Chapter 11 Demand Appendix 5 Reference tariff schedules and tariff compliance statements
9.1	**Commission may determine form and content of supporting documentation**	
9.1.1	The Commission may, from time to time, determine what constitutes 'sufficient supporting information' for the purposes of clauses 3.2.7, 3.3.2 and 7.1.2(f).	No assessment required.
9.1.2	A determination under clause 9.1.1 may specify the form and content of information to be provided.	No assessment required.
9.1.3	A determination under clause 9.1.1 must be published on the Commission's website.	No assessment required.
10.1	**Commission may determine indices to be used**	

10.1.1	If any index or other externally published statistic or set of statistics referred to in this Order ceases to be published, changes in title or is otherwise amended in a material respect, the Commission may determine the appropriate replacement to be used.	No assessment required.
11.1	**Initial prescribed service tariffs**	
11.1.1	The Prescribed Service Tariffs that apply on and from the Commencement Date are those set out in the Schedule to this Order (Initial Prescribed Service Tariffs).	No assessment required.
11.1.2	In the Initial Financial Year, the Port Licence Holder must not charge an amount for any Prescribed Service other than in accordance with the Schedule to this Order.	Chapter 11 Prescribed service tariffs Appendix 4 Prescribed services pricing
11.1.3	Despite any other provision of this Order, the Initial Prescribed Service Tariffs established under clause 11.1.1 are deemed to comply with the Pricing Principles and Cost Allocation Principles in the Initial Financial Year.	Chapter 11 Prescribed service tariffs Appendix 4 Prescribed services pricing
11.1.4	Despite any other provision of this Order, the Prescribed Service Tariff for 'Full – inward' Wharfage Fees applying immediately after the amendment effected by clause 6.3.3 or clause 6.3.4 is deemed to comply with the Pricing Principles and the Cost Allocation Principles in the Financial Year in which that amendment takes effect.	Chapter 11 Prescribed service tariffs Appendix 4 Prescribed services pricing
12.1	**Protected Provisions**	
12.1.1	The following clauses of this Order are 'protected provisions' for the purposes of the Act: (a) clause 4.2.3 (Port Capacity Project); (b) clause 4.2.4 (prudent capital expenditure); (c) clause 4.2.7 (prudent capital expenditure); (d) clause 4.2.9 (Existing Rail Assets capital value); (e) clause 4.4.1 (Depreciation Period); (f) clause 4.5.1 (Port Licence Fee); (g) clause 4.5.3 to 4.5.6 (inclusive) (prudent operating expenses); (h) clause 4.7 (initial capital asset values).'.	No assessment required.
13.1	**Regulatory period**	

13.1.1	The Port Licence Holder may determine the period of time over which to apply the Pricing Principles and Cost Allocation Principles (Regulatory Period). For the avoidance of doubt, the Port Licence Holder may adopt Regulatory Periods of different lengths over the term of the Port Lease.	Chapter 6 Operating expenditure

Appendix 9: Legal advice provided to the commission by Peter Hanks QC and Catherine Dermody on inquiry scope

REVIEW, BY THE ESSENTIAL SERVICES COMMISSION OF VICTORIA, OF COMPLIANCE BY THE PORT OF MELBOURNE WITH THE PRICING ORDER AND THE 2021-22 TARIFF COMPLIANCE STATEMENT

A. Request for advice and summary of advice

1. We have been asked to advise the Essential Services Commission (the **Commission**) on a series of questions arising out of:

   1.1 the review presently being undertaken by the Commission pursuant to s 49I of the *Port Management Act 1995* (Vic) (the **PMA**), relating to the period 1 July 2016 to 30 June 2021 (the **5-yearly inquiry**); and

   1.2 the Tariff Compliance Statement (the **TCS**) relating to the period 1 July 2021 to 30 June 2022, submitted to the Commission by the Port of Melbourne (the **Port**) on 31 May 2021.

2. We are instructed that an issue has arisen about the scope of the 5-yearly inquiry to be conducted by the Commission pursuant to s 49I of the PMA.

   2.1 The issue relates generally to the extent to which the preparation of, and matters addressed in, the 2021-22 TCS are matters that properly come within the scope of the Commission's 5-yearly inquiry.

   2.2 A specific issue has arisen in connection with forecast capital expenditure related to the Webb Dock East Knuckle removal (the **WDE Expansion Project**) in the capital base of the Port's 2021-22 TCS for the purposes of setting the Prescribed Service Tariffs for the period 1 July 2021 to 30 June 2022.

   2.3 The Commission is also seeking advice on whether other particular matters, involving the Port's approach to the weighted average cost of capital (**WACC**) and depreciation in the 2021-22 TCS, are within the scope of the Commission's 5-yearly inquiry.

3. The Commission has received submissions from a number of stakeholders addressing the WDE Expansion Project, the Port's approach to WACC and depreciation in the 2021-22 TCS and how those matters are considered by stakeholders to be relevant to the Commission's 5-yearly inquiry. Specifically in relation to the WDE Expansion Project, we have been provided with a letter from Patrick Terminals, which claims to be a person

who is provided with prescribed services by the Port, to the Commission dated 25 August 2021. In that letter, Patrick Terminals sets out how it considers the WDE Expansion Project comes within the scope of the 5-yearly inquiry. We set out the details of that position in this memorandum, and have addressed the issue it raises directly, as we are instructed that Patrick Terminals has not claimed confidentiality over the letter and we understand the letter is generally representative of the issues being raised by stakeholders as to the relevance of the 2021-22 TCS to the 5-yearly inquiry.

4. In summary:

4.1 The "terms of reference" for the Commission's review are set out in s 49I of the PMA. The Commission is charged with undertaking an inquiry into whether the Port has complied with the Pricing Order during the review period, which is the period from 1 July 2016 to 30 June 2021; and, if not, whether the non-compliance was, in the Commission's view, non-compliance in a significant and sustained manner. Only matters that inform an assessment as to the Port's compliance with the Pricing Order during the review period, and whether any non-compliance was significant and sustained, are relevant to the Commission's inquiry.

4.2 When considering whether any particular matter is relevant to the Commission's inquiry, it is necessary, first, to identify with some precision the aspect of the Pricing Order against which compliance is being assessed; and, then, to determine whether the particular matter assists in determining whether there has been compliance in the review period.

4.3 Looking specifically at forecast capital expenditure for the WDE Expansion Project included in the capital base of the Port's 2021-22 TCS for the purposes of setting the Prescribed Service Tariffs for 1 July 2021 to 30 June 2022, we do not consider this to be a matter relevant to the Commission's current 5-yearly inquiry. The proposed expenditure will properly fall for consideration in the next review period. Alternatively, the WDE Expansion Project could be the subject of an:

(a) investigation pursuant to s 49Q of the PMA in the event of a complaint that the Port has not complied with the Pricing Order; or

(b) inquiry under Part 5 of the *Essential Services Commission Act 2001* (the **ESC Act**).

4.4 We do not consider the approaches the Port has taken to the WACC and depreciation in the 2021-22 TCS to be relevant matters for the purposes of the current 5-yearly inquiry. That is because those matters do not assist in determining whether the Port has complied with a relevant aspect of the Pricing Order in the review period.

4.5 There are some aspects of the activities that the Port has undertaken in connection with the 2021-22 TCS that are relevant to the Commission's assessment of the Port's compliance with the Pricing Order in the review period.

(a) That is because they are activities that have been undertaken during the review period and the obligation to comply with particular provisions of the Pricing Order was an obligation that existed during the review period.

(b) For example, the requirement to provide to the Commission a TCS no later than 31 May 2021 was a requirement that applied to the Port during the review period; and the Port's compliance with that requirement can only be assessed in the current 5-yearly inquiry.

(c) Similarly, the Port's compliance with the requirement that the TCS address various matters properly falls for assessment in the current 5-yearly inquiry. That includes the requirement that the TCS set out the process, by which the Port has effectively consulted and had regard to the comments provided by Port Users. In undertaking its assessment of the Port's compliance with that aspect of the Pricing Order, the Commission is permitted to look beyond merely whether the Port's TCS set out the process by which the Port consulted with, and had regard to the comments provided by, Port Users, and is entitled to look at whether the Port has in fact effectively consulted and had regard to the comments provided by Port Users in the current review period.

B. Relevant legal framework

Port Management Act

5. Part 3 of the PMA provides for the regulation of port services.

5.1 Part 3 applies to a person who is a provider of "prescribed services": PMA, s 47(1).

5.2 The content of prescribed services is set out in s 49(1)(c)(i). It includes:

(a) the provision of channels for use by shipping in port of Melbourne waters, including the Shared Channels (as that term is defined in s 45) used by vessels bound either for the port of Melbourne or for the port of Geelong and the Dedicated Channels (as that term is defined in s 45) used by vessels bound for the port of Melbourne;

(b) the provision of berths, buoys or dolphins in connection with the berthing of vessels in the port of Melbourne; and

(c) the provision of access to, or allowing the use of, places or infrastructure (including wharves, roads and rail infrastructure) on port of Melbourne land for the provision of services to port users.

5.3 The Port provides prescribed services pursuant to a 50-year lease of the commercial operations and assets at the port of Melbourne and is therefore subject to the provisions of Part 3 of the PMA.

5.4 Section 49A(1) of the PMA provides that the Governor in Council may make an Order:

(a) for or with respect to the provision of prescribed services; and

(b) for the regulation, in such manner as the Governor in Council thinks fit, of the prices for the provision of prescribed services (a **Pricing Order**).

5.5 Section 49A(2) and (3) of the PMA provide that an Order may, without limiting the generality of s 49A(1):

(a) specify pricing policies or principles: s 49A(3)(b);

(b) specify the treatment of capital expenditure: s 49A(3)(e);

(c) fix the price or the rate of increase or decrease in a price: s 49A(3)(f);

(d) fix a maximum revenue or maximum rate of increase or minimum rate of decrease in the maximum revenue in relation to prescribed services or any component of prescribed services: s 49A(3)(k).

6. The Commission is charged, pursuant to s 49I of the PMA, to conduct reviews into compliance with a Pricing Order. Section 49I(1) provides that the Commission must, not later than 6 months after a review period, conduct and complete an inquiry under the *Essential Services Commission Act 2001* (**ESC Act**) and report to the ESC Minister (defined in s 45 as meaning the Minister administering the ESC Act):

   6.1 as to whether a provider of prescribed services to whom a Pricing Order applies has complied with the Pricing Order during the review period; and

   6.2 if there was non-compliance with the Pricing Order, whether that non-compliance was, in the Commission's view, non-compliance in a significant and sustained manner.

   6.3 A "review period" for the purposes of s 49I is defined in s 49I(5) to mean:

      (a) the period commencing on the day on which the first Pricing Order made under s 49A takes effect and ending 5 years after that day; and

      (b) every subsequent period of 5 years commencing on the day after the day on which the previous period ends.

7. A Pricing Order applying to the Port was made on 21 June 2016, and published in the Victoria Government Gazette on 24 June 2016. It commenced on 1 July 2016.

   7.1 Therefore, pursuant to s 49I, the Commission must, not later than 6 months after the review period 1 July 2016 to 30 June 2021, report to the ESC Minister as to whether the Port has complied with the Pricing Order during that review period and, if there was non-compliance, whether that non-compliance was, in the Commission's view, non-compliance in a significant and sustained manner.

   7.2 The Commission commenced an inquiry under s 49I on 10 June 2021.

Pricing Order

8. The Pricing Order provides for the regulation of Prescribed Services Tariffs.[1]

9. The Pricing Order sets out Prescribed Service Tariffs Pricing Principles, which include that Prescribed Service Tariffs must be set so as to allow the Port a reasonable opportunity to recover the efficient cost of providing all Prescribed Services determined by application of an accrual building block methodology of the type described in clause 4 (**Aggregate Revenue Requirement**): Pricing Order, clause 2.1.1(a).

10. Clause 4.1.1 of the Pricing Order sets out details of the method, by which the Port is to determine its Aggregate Revenue Requirement. It provides that the Port must apply an accrual building block methodology over the Regulatory Period, comprising:

    10.1 an allowance to recover a return on its capital base, commensurate with that which would be required by a benchmark efficient entity providing services with a similar degree of risk as that which applies to the Port in respect of the provision of the Prescribed Services: clause 4.1.1(a);

    10.2 an allowance to recover the return of its capital base: clause 4.1.1(b); and

    10.3 an allowance to recover its forecast operating expenses, commensurate with that which would be required by a prudent service provider acting efficiently: clause 4.1.1(c); less

    10.4 an indexation allowance: clause 4.1.1(d).

11. Further prescription as to each of the various building blocks described in clause 4.1.1 is provided in subsequent clauses.

    11.1 Clause 4.2 deals with the capital base. It provides that subject to clause 4.2.2 (which provides that the initial capital base is to be determined by applying the asset values specified in clause 4.7), the capital base applied for the purposes of clause 4.1.1(a) and 4.1.1(b) must be defined, at any particular time, on a roll forward basis, by:

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1 The Pricing Order defines "Prescribed Services Tariffs" as meaning the prices charged for the provision of, or in connection with, Prescribed Services. The term "Prescribed Services" in the Pricing Order is defined to have the same meaning as in the PMA. Pricing Order, clause 14.

(a) taking the value at the commencement of any Financial Year;

(b) adding an indexation allowance for that Financial Year in accordance with clause 4.6.1(a);

(c) adding efficient capital expenditure when incurred or to be incurred during that Financial Year, by the Port, acting prudently, in the provision of the Prescribed Services (in each instance, deemed to be incurred as at the mid-point of that Financial Year and adjusted by an indexation allowance in accordance with clause 4.6.1(b) for that Financial Year); and

(d) deducting an allowance for the return of capital.

11.2 Return on capital is dealt with in clause 4.3. It provides that, subject to clause 4.3.2 (that the rate of return be determined on a pre-tax, nominal basis), in determining a rate of return on capital for the purposes of clause 4.1.1(a), the Port must use one or a combination of well accepted approaches that distinguish the cost of equity and debt, and so derive a weighted average cost of capital, or WACC.

11.3 Clause 4.4 addresses the return of capital. Clause 4.4.1 provides that, subject to clauses 4.4.2 and 4.4.3, for the purposes of clauses 4.1.1(b) depreciation must be determined so that each asset or group of assets used to provide the Prescribed Services is depreciated using a straight-line methodology over a period that is:

(a) no shorter than the reasonable economic life of the relevant asset or the remaining term of the Port Lease (whichever is shorter); and

(b) no longer than the remaining term of the Port Lease;

(**Depreciation Period**); and

(c) only once, meaning that the amount by which the asset or group of assets is depreciated over the Depreciation Period does not exceed the value of the asset or group of assets at the time of its or their inclusion in the capital base.

11.4 Clause 4.4.2 provides that the Port may only use an alternative to the straight-line methodology to be applied under clause 4.4.1 if:

(a) the application of clause 3.1.1 (which relates to the Tariff Adjustment Limit) means that the return of capital derived using a straight-line depreciation methodology is not capable of being recovered in the applicable Financial Year; or

(b) the alternative depreciation methodology is reasonably likely to reduce the variance in the expected annual percentage changes in the level of Prescribed Service Tariffs through to the end of the Port Lease.

11.5 Further prescription on the operating expenditure block is dealt with in clause 4.5.

11.6 Clause 4.6 provides further detail on the method for calculating the indexation allowance referred to in clause 4.1.1(d).

11.7 Finally, clause 4.7 sets out the initial capital asset values to be used to provide the Shared Channel Services[2] and the Bundled Services[3].

12. Clause 7 of the Pricing Order deals with the Tariff Compliance Statement, which the Port is required to provide to the Commission.

12.1 Relevantly, clause 7.1.1 provides that the Port must provide to the Commission a Tariff Compliance Statement no later than 31 May in each Financial Year.

12.2 Relevantly, clause 7.1.2 provides that the Tariff Compliance Statement must:

(a) set out the Prescribed Service Tariffs for the forthcoming Financial Year;

(b) provide information detailing the basis by which adjustments to, or introduction of new, Prescribed Service Tariffs have been made, including the cost building blocks that have been applied and the basis on which the rate of return has been determined;

(c) provide information on all contracts with Port Users of the kind described in clause 6.2.1 and the basis on which they comply with clause 6.2.1;

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2 The term “Shared Channel Services” is defined in clause 14 of the Pricing Order to mean the provision of the “Shared Channels”. The term “Shared Channels” is defined to have the same meaning as in the PMA, which is, according to s 45 of the PMA: “that part of port of Melbourne waters extending from the seaward limit to Point Richards in the direction of Geelong and Fawkner Beacon in the direction of Melbourne, including the channels known as the Great Ship Channel and adjacent channels and the South Channel” (s 45).

3 The term “Bundled Services” is defined in clause 14 of the Pricing Order to mean the Prescribed Services other than the Shared Channel Services.

(d) set out the process by which the Port has effectively consulted and had regard to the comments provided by Port Users;

(e) explain how the Prescribed Service Tariffs comply with the Pricing Order, including the Pricing Principles and Cost Allocation Principles;

(f) contain any other sufficient supporting information determined by the Commission under clause 9; and

(g) comply with the requirements in clause 8.

12.3 Clause 8 sets out a number of information requirements.

(a) Clause 8.1.1 provides that any financial information provided in a Tariff Compliance Statement must specify whether it is denominated in constant or current price terms.

(b) Clause 8.2.1 provides that information in the nature of an estimate or forecast must be supported by a statement of the basis of the forecast or estimate.

(c) Clause 8.2.2 provides that a forecast or estimate must be arrived at on a reasonable basis and must represent the best forecast or estimate possible in the circumstances.

(d) Clause 8.3.1 provides that information in the nature of an extrapolation or inference must be supported by the primary information on which the extrapolation or inference is based.

13. The length of the regulatory period is dealt with in clause 13. Clause 13.1.1 provides that the Port may determine the period of time over which to apply the Pricing Principles and Cost Allocation Principles (**Regulatory Period**). It further provides that, for the avoidance of doubt, the Port may adopt Regulatory Periods of different lengths over the term of the Port Lease.

C. 2021-22 TCS

14. The 2021-22 TCS was submitted by the Port to the Commission on 31 May 2021. Relevant to the questions that we have been asked, the 2021-22 TCS:

14.1 addresses the Port's 2020-21 stakeholder engagement program;[4]

14.2 adopts a one-year regulatory period for the 2021-22 financial year;[5]

14.3 sets out the Port's calculation of the 2021-22 Aggregate Revenue Requirement using the Accrual Building Block Methodology,[6] the inputs to which include:

(a) an opening capital base as at 1 July 2021 of $4,911.6m and a closing asset base as at 30 June 2022 of $5,153.4m—which included forecast capital expenditure over that period of $186.0m, of which $28m comprised forecast capital expenditure associated with berth extension at Webb Dock East;[7] and

(b) a pre-tax nominal WACC of 8.23%;[8] and

14.4 set out a depreciation methodology, which involves:

(a) for the next regulatory period (and the remainder of the Tariff Adjustment Limit period), applying straight-line depreciation with an unrecovered depreciation account, with uncharged depreciation recorded as a separate asset with a life equal to the remaining lease term; and

(b) after the Tariff Adjustment Limit period ends, applying a tilted annuity depreciation method, with the tilt factor designed to reduce the variance in the expected annual percentage change in the level of tariffs until the end of the Port Lease.[9]

15. Attachment 2 to the 21-22 TCS provides more detail on the Port's 2021-22 forecast capital expenditure for Prescribed Services. Of particular relevance to this advice is the proposed WDE Expansion Project.

15.1 The 2021-22 TCS identifies the proposed WDE Expansion Project as one main driver of the increase in capital expenditure. The project is described as extending the current quay line by 71m to the north with the additional Southern

4 2021-22 TCS, pp 17–21 and Appendices I and J.
5 2021-22 TCS, p 21.
6 2021-22 TCS, pp 34–54.
7 2021-22 TCS, p 35.
8 2021-22 TCS, p 38.
9 2021-22 TCS, p 46.

Mooring Dolphin providing a further 15m of usable quay line. The Port says that the project is intended to "address the artificial and unintended capacity constraint being caused by larger vessels, with insufficient quay line to service two vessels concurrently".[10]

15.2 The Port says that, with respect to larger vessels, its strategy has focussed on "first maximising the use of the existing infrastructure through new technology and operational controls, and then targeted, incremental capital investments to accommodate large vessels".[11] In that connection, the Port identifies a range of work done to date, including:

(a) vessel simulations program, hydrodynamic modelling, vessel interaction studies and berth structural assessment;

(b) Yarra river channel and Swanston Dock Swing Basin selected deepening;

(c) Swanson Dock Berths 3 (East and West) Mooring Bollards upgrade;

(d) detailed designs for Swanston Dock East and Swanson Dock West Berths 2 Mooring Bollards upgrade (scheduled for completion in 2021);

(e) rehabilitation of Swanson Dock East Berths 1 and 2 (completed in December 2020);

(f) detailed planning and design for Swanson Dock West rehabilitation underway (works scheduled to commence in 2021);

(g) commencement of Webb Dock East – Southern Mooring Dolphin (complete); and

(h) detailed design and planning for the Webb Dock East Berth 4 & 5 extension.[12]

15.3 The Port says that the WDE Expansion Project forms a component of its planned investment program to provide services to larger vessels and was first consulted on in 2018 as part of its consultations on the Port Development Strategy.[13]

10 2021-22 TCS, p 64.
11 2021-22 TCS, p 65.
12 2021-22 TCS, p 65.
13 2021-22 TCS, p 65.

The Port says that in its 2021 industry consultation it set out its view that construction of the proposed WDE Expansion Project should proceed and provided its forecast expenditure for 2021-22 which included the project.[14]

15.4 The Port describes the WDE Expansion Project as comprising:

(a) demolition of the Webb Dock East berth 3 structure the "knuckle", and extension of Webb Dock East Berth 4 by 71m to the north, supported by a mooring dolphin to the south to provide an operational berth length of 746m; and

(b) increased terminal area for Victoria International Container Terminal (**VICT**) of approximately 2%, to enable the safe operation of cranes (including safe service vehicle access) behind the extended berth.[15]

15.5 In terms of project timing, the Port notes that it has included the WDE Expansion Project in its forecast expenditure for 2021-22. With the construction phase expected to run for 18-24 months, this timing would result in commissioning of the project in 2023-24.[16]

15.6 In connection with project funding, the Port notes that it considers Prescribed Service Tariffs to be the appropriate mechanism for recovery of the investment.[17]

Correspondence from Patrick Terminals in relation to the 2021-22 TCS and the WDE Expansion Project

16. On 25 August 2021, the Commission received a letter from Patrick Terminals in connection with the WDE Expansion Project (the **Patrick Letter**).

17. The Patrick Letter stated that the Port's acceleration of Webb Dock precinct developments and the inclusion of forecast capital expenditure related to the WDE Expansion Project in the capital base, for the purposes of setting Prescribed Service Tariffs in the Port's 2021-22 TCS, "is [sic] within the scope of the" 5-yearly inquiry and "must be reviewed in the course of the current compliance review". The Patrick Letter put its position in the manner set out below.

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14 2021-22 TCS, p 65.
15 2021-22 TCS, p 66.
16 2021-22 TCS, p 70.
17 2021-22 TCS, p 70.

17.1 Under s 49I of the PMA, the Commission is required to consider and report on the Port's compliance with the Pricing Order during the 5 yearly review period.

17.2 The inclusion by the Port of forecast capital expenditure as part of the WDE Expansion Project in setting the published tariffs within the review period on 31 May 2021 comes within the scope of the Commission's mandatory compliance review.

17.3 In setting Prescribed Service Tariffs during the review period, the Port included in the Aggregate Revenue Requirement forecast prescribed capital expenditure relating to the WDE Expansion Project, noting that "capex is forecast to increase substantially from $80.9m in 2020-21 to $186.0m in 2021-22. The main driver of the increase in capex is the growth expenditure under the Port Rail Transformation Project and Webb Dock East Berth 4 & 5 Extension…".

17.4 The Port states that it calculated its 2021-22 Aggregate Revenue Requirement using the Accrual Building Block Methodology in accordance with clauses 2.1.1 and 4 of the Pricing Order, and the Port's regulatory model includes forecast capital expenditure of $30.5m for 2021 and $84.8m for 2022 for "wharves".

17.5 The Commission is tasked, as part of its compliance review, with determining the Port's compliance with the Pricing Order and, as such, the Commission is required to test the Port's compliance with the requirement that it only include benchmark efficient capital costs and appropriately allocated prudent and efficient capital and operating expenditure in its Aggregate Revenue Requirement Accrual Building Block Methodology.

17.6 The decision to accelerate the development of the Webb Dock precinct is relevantly before the Commission under its compliance review as clause 4.2.1(c) of the Pricing Order requires both actual and forecast capital expenditure added to the capital base to be prudent and efficient.

D. Questions and advice

18. The questions we have been asked and our advice on each of those questions are set out below.

Question 1

Is the Port's forecast capital expenditure related to the WDE Expansion Project, which has been included in the capital base in the Port's 2021-22 TCS for the purposes of setting Prescribed Service Tariffs for the regulatory year 1 July 2021 to 30 June 2022, a relevant matter for the purposes of the current inquiry? In answering this question, please consider in particular clause 4.2.1 of the Pricing Order, which relates to the capital base applied for the purposes of clause 4.1.1(a).

<u>Short answer</u>: The Port's forecast capital expenditure related to the WDE Expansion Project, which has been included in the capital base in the 2021-22 TCS for the purposes of setting Prescribed Service Tariffs for the period 1 July 2021 to 30 June 2022, is not a relevant matter for the purposes of the current inquiry. The scope of the inquiry is limited by s 49I of the PMA, and that scope extends to an examination of matters that are relevant to the Commission's assessment of whether the Port has complied with the Pricing Order during the review period, being 1 July 2016 to 30 June 2021. To the extent the Port proposes to add to the capital base expenditure associated with the WDE Expansion Project for the purposes of determining its Aggregate Revenue Requirement for 2021-22, that proposed addition properly falls for consideration in the next review period, being 1 July 2021 to 30 June 2026.

Discussion

19. The terms of reference that apply to the 5-yearly inquiry are set out in s 49I of the PMA.

20. As noted above, s 49I(1) of the PMA provides that the Commission must, not later than 6 months after a review period, conduct and complete an inquiry under the ESC Act and report to the ESC Minister (defined in s 45 as the Minister administering the ESC Act):

    20.1 as to whether a provider of prescribed services, to whom a Pricing Order applies (in this case, the Port), has complied with the Order during the review period; and

    20.2 if there was non-compliance with the Pricing Order, whether that non-compliance was, in the Commission's view, non-compliance in a significant and sustained manner.

21. As also noted above, the review period is defined in s 49I(5) of the PMA.

    21.1 Section 49I(5) provides that the "review period" means:

(a) the period commencing on the day on which the first Pricing Order made under s 49A takes effect and ending 5 years after that day; and

(b) every subsequent period of 5 years commencing on the day after the day on which the previous period ends.

21.2 In the present case, the first Pricing Order took effect on 1 July 2016: see Pricing Order, clause 1.1.1. Therefore the review period is 1 July 2016 to 30 June 2021.

22. The terms of reference for the Commission's 5-yearly inquiry are therefore:

22.1 whether the Port has complied with the Pricing Order during the period 1 July 2016 to 30 June 2021; and

22.2 if there was non-compliance with the Pricing order, whether that non-compliance was, in the Commission's view, non-compliance in a significant and sustained manner.

23. As a general proposition, the only matters that are relevant to the Commission's 5-yearly inquiry are matters that go to the Commission's assessment of whether the Port has complied with a requirement in the Pricing Order during the review period. As such it is necessary to identify:

23.1 the particular aspect of the Pricing Order against which compliance is being assessed; and

23.2 the manner in which the particular matter or thing contributes to the assessment of whether there has been compliance or otherwise with that particular aspect of the Pricing Order.

24. In the case of forecast capital expenditure, the Commission only needs to (and is only permitted to) consider forecast capital expenditure in the 2021-22 TCS in the event that such forecast capital expenditure is relevant to the terms of reference for the Commission's 5-yearly inquiry. The question is: how, if at all, is the forecast capital expenditure in the 2021-22 TCS relevant to assessing the Port's compliance with the Pricing Order during the review period?

25. In its 25 August 2021 letter, Patrick Terminals relies in particular on clause 4.2.1(c) of the Pricing Order as the basis on which it says the Port's decision to accelerate the

development of the Webb Dock precinct comes within the 5-yearly inquiry (see paragraph 17.6 above).

26. Clause 4.2.1 of the Pricing Order provides that, subject to clause 4.2.2 (which is not presently relevant), the capital base applied for the purposes of clause 4.1.1(a) and 4.1.1(b) must be defined at any particular time, on a roll forward basis, by:

26.1 taking the value at the commencement of any Financial Year;

26.2 adding an indexation allowance for that Financial Year in accordance with clause 4.6.1(a);

26.3 adding efficient capital expenditure when incurred, or to be incurred during that Financial Year, by the Port Licence Holder, acting prudently, in the provision of the Prescribed Service (in each instance, deemed to be incurred as at the mid-point of that Financial Year and adjusted by an indexation allowance in accordance with clause 4.6.1(b) for that Financial Year); and

26.4 deducting an allowance for the return of capital.

27. Importantly, clause 4.2.1 sets out how the value of the capital base applied for the purposes of clause 4.1.1(a) and 4.1.1(b) must be defined. As set out in clause 4.1.1, the capital base is applied for the purposes of determining the Port's Aggregate Revenue Requirement by applying an accrual building block methodology over the Regulatory Period, relevantly comprising:

27.1 an allowance to recover a return on the Port's capital base; and

27.2 an allowance to recover the return of its capital base.

28. To the extent that forecast capital expenditure in connection with the WDE Expansion Project has been included in the 2021-22 TCS and in the capital base used for the purposes of determining the Port's Aggregate Revenue Requirement for the Regulatory Period 2021-22, that capital expenditure falls for consideration in the next 5-year review period. That forecast capital expenditure has not been used to determine the Port's Aggregate Review Requirement in the current review period and there is no basis on which to assess that forecast expenditure in the current 5-yearly inquiry in the event that expenditure on that project falls entirely outside of the 1 July 2016 to 30 June 2021 review period.

29. It might be that a particular capital project spans two review periods before and after 30 June 2021 (for example, some expenditure on the WDE Expansion Project might have been incurred in the period 1 July 2016 to 30 June 2021, as appears to be the case from the 2021-22 TCS: see paragraph 15.2 above). In that situation, the Commission would be authorised and required to examine the efficiency and prudency of that expenditure as part of its current review – because that would be part of assessing the Port's compliance with the Pricing Order in the current review period.

30. We note that a position could be put that, although the relevant Prescribed Service Tariffs are based on capital expenditure in respect of the WDE Expansion Project forecast to be incurred after 30 June 2021, the Port, in the 2021-22 TCS has undertaken the activity of "setting" the Prescribed Service Tariffs in the current 5-year review period, and it is open to the Commission to assess compliance of that activity in the current 5-yearly inquiry.

30.1 For example, clause 2.1.1 of the Pricing Order provides that "Prescribed Service Tariffs must be set" so as to allow the Port a reasonable opportunity to recover the efficient cost of providing all Prescribed Services determined by application of an Aggregate Revenue Requirement.

30.2 However, in our view, the relevant question of compliance is whether the Prescribed Service Tariffs that apply during the 1 July 2021 to 30 June 2022 Regulatory Period comply with the requirements of the Pricing Order, and the fact that those tariffs were set by the Port prior to 30 June 2021 does not alter the nature of that inquiry.

30.3 That is, consistent with the regime established by the PMA, what is to be undertaken by the Commission is an ex-post assessment of the compliance of those tariffs with the requirements of the Pricing Order, which will form part of the subsequent 5-yearly review.

30.4 To construe the Pricing Order otherwise would give rise to an illogical outcome – whereby the Commission's 5-yearly review would be an ex-post review, considering the Port's compliance with the Pricing Order over an historical five-year period and an ex-ante review for the first year of every succeeding five-year period, merely because of the obligation to provide a TCS to the Commission by 31 May in each year, setting out the Prescribed Service Tariffs for the forthcoming Financial Year.

31. There are other avenues, through which the Port's activities with respect to the WDE Expansion Project could be considered by the Commission prior to next 5-yearly review, which relates to the period 1 July 2021 to 30 June 2026.

31.1 First, a person who is provided prescribed services may complain to the Commission if that person considers that the Port has not complied with the Pricing Order. On receipt of such a complaint, the Commission may investigate the complaint pursuant to s 49Q of the PMA Act.

31.2 Secondly, the Minister could refer the matter to the Commission for an inquiry pursuant to s 41 of the ESC Act.

Question 2

Are the approaches that the Port takes to the WACC and depreciation in the 2021-22 TCS relevant matters for the purposes of the current inquiry?

<u>Short answer</u>: The approaches that the Port takes to the WACC and depreciation in the 2021-22 TCS are not relevant matters for the purposes of the current inquiry.

Discussion

32. For the reasons set out above in connection with forecast capital expenditure relating to the WDE Expansion Project proposed to be undertaken in 2021-22, the approaches that the Port takes to the WACC and depreciation in the 2021-22 TCS are not relevant matters for the purposes of the current 5-yearly inquiry.

33. The terms of reference require the Commission to answer the question as to whether the Port has complied with the Pricing Order during the period 1 July 2016 to 30 June 2021 and, if there has been non-compliance, whether that non-compliance was in a significant and sustained manner. The WACC and the depreciation method adopted by the Port in the 1 July 2016 to 30 June 2021 period, and their compliance or otherwise with the Pricing Order, fall for consideration within that timeframe. What is proposed to happen in 2021-22, as a general proposition, is irrelevant to that ex-post assessment.

34. We have considered whether it might be appropriate to consider depreciation over a more extended period – for example, where the Port has set the depreciation building block to $0, with the intention of deferring recovery of substantial amounts of depreciation until the Tariff Adjustment Limit ceases to apply in 2031. We note that clause 4.2.2(b) of

the Pricing Order permits an alternative to straight-line depreciation where the alternative is reasonably likely to reduce the variance in the expected annual percentage changes in the level of Prescribed Services Tariffs through to the end of the Port Lease. However, that is different to having regard to future TCSs: it is an assessment of a methodology for the purpose of determining compliance in the review period, in which that methodology is applied.

Question 3

To the extent that the Port has undertaken, during the 5-year review period, activities connected with the 2021-22 TCS, are those activities a relevant matter for the purposes of the current inquiry? In answering this question, please consider in particular:

(a) clause 7.1.2(d) of the Pricing Order, which requires that the TCS must set out the process by which the Port has effectively consulted and had regard to the comments provided by Port Users; and

(b) the scope of any Commission consideration of that activity.

<u>Short answer</u>: The Commission does need to consider the consultation undertaken by the Port in relation to its 2021-22 TCS as part of the Commission's 5-yearly inquiry, together with any other activities that are relevant to the Commission's assessment of compliance by the Port with a particular requirement of the Pricing Order in the current review period.

Discussion

35. Relevantly, clause 7.1.1 of the Pricing Order requires the Port to provide to the Commission a TCS no later than 31 May in each Financial Year.

35.1 Clause 7.1.2 provides that a TCS must, amongst other things:

35.2 set out the Prescribed Service Tariffs for the forthcoming Financial Year: clause 7.1.2(a);

35.3 provide information detailing the basis by which adjustments to, or introduction of new, Prescribed Service Tariffs have been made, including the cost building blocks that have been applied and the basis on which the rate of return has been determined: clause 7.1.2(b);

35.4 provide information on all contracts with Port Users of the kind described in clause 6.2.1 (namely, contracts for the supply of prescribed services on terms and conditions that differ from those specified in the Reference Tariff Schedule or do not satisfy the requirements in clause 6.1.5) and the basis on which those contracts comply with clause 6.2.1: clause 7.1.2(c);

35.5 set out the process by which the Port has effectively consulted and had regard to the comments provided by Port Users: clause 7.1.2(d);

35.6 explain how the Prescribed Service Tariffs comply with the Pricing Order, including the Pricing Principles and Cost Allocation Principles: clause 7.1.2(e);

35.7 contain any other sufficient supporting information determined by the Commission under clause 9: clause 7.1.2(f); and

35.8 comply with the requirements of clause 8, which include that:

(a) information in the nature of an estimate or forecast must be supported by a statement of the basis of the forecast or estimate; and

(b) a forecast or estimate must be arrived at on a reasonable basis and must represent the best forecast or estimate possible in the circumstances: clause 7.1.2(g).

36. A number of the obligations set out above applied during the review period and, in respect of which, compliance or otherwise by the Port properly forms part of the Commission's current 5-yearly review. For example, the obligation in clause 7.1.1 (that the Port provide to the Commission a TCS no later than 31 May 2021 that sets out the Prescribed Service Tariffs for the 2021-22 Financial Year) is an obligation that existed in the review period and against which compliance can only be assessed as part of the current 5-yearly review.

37. A number of the requirements in clause 7.1.2 are of a procedural nature and the Port's compliance with them will likely be straightforward to determine. That is, the TCS either will or will not:

37.1 provide information detailing the basis by which adjustments to, or introduction of new, Prescribed Service Tariffs have been made: clause 7.1.2(b);

37.2 provide information on all contracts with Port Users for Prescribed Services and the basis on which they comply with clause 6.2.1: clause 7.1.2(c); and

37.3 explain how the Prescribed Service Tariffs comply with the Pricing Order: clause 7.1.2(e).

38. That said, the Commission's consideration of whether the Port has complied with the above matters is not merely a "tick the box" exercise—the Commission may also enquire into the sufficiency of the information provided. For example, if in the TCS the Port provides some explanation as to how it says the Prescribed Service Tariffs comply with the Pricing Order, but that information is insufficient properly to understand how it is the Port says those tariffs comply, the Commission may determine that the Port has not in fact complied with a requirement of the Pricing Order.

39. Although clause 7.2.1(e) requires the Commission to assess whether the Port has explained how the Prescribed Service Tariffs comply with the Pricing Order, the Commission is not required by that clause to assess whether those tariffs in fact comply with the Pricing Order. That assessment, as set out above, properly occurs as part of the Commission's subsequent 5-yearly review, relating to the period 1 July 2021 to 30 June 2026.

40. We consider that the requirement in clause 7.1.2(d), that the 2021-22 TCS set out the process by which the Port has effectively consulted and had regard to the comments provided by Port Users, permits the Commission to assess, as part of the 1 July 2016 to 30 June 2021 5-yearly review, whether the Port has in fact effectively consulted and had regard to the comments provided by Port Users. That is an activity that the Port is required to cover in the 2021-22 TCS submitted on 31 May 2021, and relates to consultation that would have commenced and concluded prior to 31 May 2021, in order for the Port to submit the TCS to the Commission as required by clause 7.1.1.

41. Although clause 7.1.2(d) is stated as a procedural requirement—insofar as the obligation is that the TCS must set out the process by which the Port has effectively consulted with, and had regard to the comments provided by, Port Users—we consider that a Court would construe this provision as placing a substantive obligation on the Port to consult effectively with, and have regard to the comments provided by, Port Users. That is, the Port cannot demonstrate compliance with clause 7.1.2(d) merely by setting out in a TCS the process by which the Port says it has effectively consulted and had regard to the comments provided by Port Users; in order to satisfy the requirements of clause 7.1.2(d),

the Port must in fact have effectively consulted and had regard to the comments provided by Port Users.

42. Returning to the Commission's terms of reference under s 49I of the PMA, the Commission may legitimately assess what the Port says about its consultation process in the 2021-22 TCS and inquire into whether in fact that consultation represents effective consultation and whether the Port has had regard to the comments provided by Port Users. That assessment would then enable the Commission to make a finding as to whether the TCS sets out a process of effective consultation which has had regard to the comments provided by Port Users.

43. In terms of the content of the obligation to consult, some guidance may be drawn in particular from the area of administrative law, in which compliance with a duty to consult is frequently considered. Guidance is also available from cases where there exists a statutory duty to consult, which is common in planning and environment legislation as well as in industrial relations. Some instructive commentary that has emerged from cases in those areas is set out below.

43.1 Consultation is no empty term and the requirement is never to be treated perfunctorily or as a mere formality.[18]

43.2 A responsibility to consult carries a responsibility to give those consulted an opportunity to be heard and to express their views so that they may be taken into account.[19]

43.3 To be a proper consultation, the consultation must be "undertaken at a time when proposals are still at a formative stage; it must include sufficient reasons for particular proposals to allow those consulted to give intelligent consideration and an intelligent response; adequate time must be given for this purpose; and the product of consultation must be conscientiously taken into account when the ultimate decision is taken".[20]

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18 See, for example, *TVW Enterprises Ltd v Duffy (No 2)* (1985) 7 FCR 172 at 178, citing *Port Louis Corporation v Attorney-General of Mauritius* [1965] AC 1111 at 1124.

19 See for example: *TVW Enterprises Ltd v Duffy (No 2)* (1985) 7 FCR 172 at 178 citing *Port Louis Corporation v Attorney-General of Mauritius* [1965] AC 1111 at 1124; *Rollo v Minister of Town and Country Planning* [1948] 1 All ER 13 at 17; *Sinfield v London Transport Executive* [1970] 1 Ch 550 at 558.

20 See, for example, *R v North & East Devon Health Authority; Ex parte Coughlan* [2001] QB 213 at 258 [108].

43.4 Sufficient material must be provided to those being consulted and a reasonable opportunity given to respond, including to new material that may become available after consultation has occurred.[21]

43.5 A right to be consulted is not a right of veto.[22]

43.6 The case of *Wellington International Airport Ltd v Air New Zealand* [1993] 1 NZLR 671 at 675 provides a convenient summary of the principles of consultation as follows:

> Consultation must be allowed sufficient time, and genuine effort must be made. It is to be a reality, not a charade … To "consult" is not merely to tell or present. Nor, at the other extreme, is it to agree … Consultation is an intermediate situation involving meaningful discussion …" Consultation involves the statement of a proposal not yet finally decided upon, listening to what others have to say, considering their responses and then deciding what will be done".
>
> Implicit in the concept is a requirement that the party consulted will be (or will be made) adequately informed so as to be able to make intelligent and useful responses. It is also implicit that the party obliged to consult, while quite entitled to have a working plan already in mind, must keep its mind open and be ready to change and even start afresh.

13 September 2021

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21 See, for example, *Leichhardt Municipal Council v Minister for Planning* (1992) 78 LGERA 306 at 338.

22 See, for example, *Communications, Electrical, Electronic, Energy, Information, Postal, Plumbing and Allied Services Union of Australia v QR Limited* [2010] FCA 591 at [44].

Appendix 10: 'Significant and sustained non-compliance'

In relation to when non-compliance will constitute non-compliance in a 'significant and sustained manner', the PMA does not define or provide further exposition as to when non-compliance will rise to that level.

The task of construing the terms 'significant' and 'sustained' begins and ends with a consideration of the statutory text considered in its context.[467] A construction of 'non-compliance in a significant and sustained manner' that promotes the purpose of the PMA and the objectives of Part 3 of the PMA is to be preferred to a construction that would not promote that purpose.[468] A number of the important objectives of Part 3 are set out above and in summary include:

- to promote efficient use of, and investment in, the provision of prescribed services for the long-term interests of users and Victorian consumers
- to protect the interests of users of prescribed services by ensuring that prescribed prices are fair and reasonable
- to allow a provider of prescribed services a reasonable opportunity to recover the efficient costs of providing prescribed services, including a return commensurate with the risks involved.

The meaning of the term 'significant' as part of a composite term has been considered by the courts in other legislative contexts, for example, in environmental protection,[469] planning,[470] personal injury,[471] evidence[472] and contract.[473] These statutory contexts are very different to PMA and do not provide any particular assistance other to confirm that it is an ordinary term to be construed in context.

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[467] *Federal Commissioner of Taxation v Consolidated Media Holdings Ltd* (2012) 250 CLR 503, [39], quoting *Alcan (NT) Alumina Pty Ltd v Commissioner of Territory Revenue* (2009) 239 CLR 27, [47].

[468] *Interpretation of Legislation Act 1984* (Vic), section 35(a).

[469] See for example: *Booth v Bosworth* (2001) 114 FCR 39, [99]; *Polaris Coomera Pty Ltd v Minister for the Environment* [2021] FCA 254, [36]; *Tasmanian Aboriginal Centre Inc v Secretary, Department of Primary Industries, Parks, Water and Environment (No 2)* (2016) 215 LGERA 1, [240].

[470] See for example: *Hoskin v Greater Bendigo City Council* (2015) 48 VR 715, [55].

[471] See for example: *South Australia v Roberts* (2018) 130 SASR 274, [100]–[101];

[472] See for example: *R v Toohey (No 1)* [2017] NSWSC 846, [31]–[33]; *Hughes v The Queen* [2017] 263 CLR 338, [81]–[84]; *Semann v R* (2013) 39 VR 503, [35]–[38]

[473] See for example: *Jetstar Airways v Free* [2008] VSC 539, [104]–[105].

To the extent that judicial consideration of the term 'significant' in other statutory contexts are not of particular assistance in construing that term in the PMA, cases relating to the construction of alternative terms that may be used to indicate the degree to which a particular thing must do something in order to satisfy a particular threshold are of even less assistance. This includes competition law cases that have considered the meaning of 'significant' in the context of a 'significant lessening of competition'.[474] In fact, a number of these cases makes the point that the concept of 'substantially lessening competition' is evaluative and there is 'only limited assistance to be derived from replacing the words with other phrases'.[475]

We consider that non-compliance will be 'significant' where the non-compliance has a consequence, that is, where the failure to comply has an impact. The impact cannot be one that is insignificant or immaterial. It must be something of significance, and excludes impacts that are minor or unlikely. This is consistent with the ordinary meaning of 'significant' which relevantly includes: 'important; of consequence'.[476]

For non-compliance to be 'significant' there must be something more than mere non-compliance. That is plain from the terms of section 49I which separates out the requirement for the Commission to report on whether there has been compliance (section 49I(1)(a)) and, if there has been non-compliance, whether the non-compliance was non-compliance in a significant and sustained manner. Therefore, something more than mere non-compliance is required for non-compliance to be significant. That is not to say that the non-compliance must have a 'significant impact', rather it is sufficient if the non-compliance has an impact considered in the context of the objectives of Part 3 of the PMA. Such a construction promotes the objectives of Part 3 of the PMA which are concerned with important economic objectives, including promotion of the efficient use of, and investment in, the provision of prescribed services.[477]

We consider that non-compliance will be 'sustained' where the failure to comply has persisted for a period such that it cannot be considered to be fleeting or transitory. The ordinary meanings of

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[474] See for example: *Stirling Harbour Services Pty Ltd v Bunbury Port Authority* [2000] FCA 38, [114]; *Dandy Power Equipment v Mercury Marine* [1982] 64 FLR 238, 259–260; *Rural Press v ACCC* [2003] 216 CLR 53, [41].

[475] *Stirling Harbour Services Pty Ltd v Bunbury Port Authority* [2000] FCA 38, [114]; *Dandy Power Equipment v Mercury Marine* [1982] 64 FLR 238, 259–260.

[476] Macquarie Dictionary <macquariedictionary.com.au> (accessed 3 December 2021).

[477] In construing terms in the national access regime in Part IIIA of the *Competition and Consumer Act 2010* (Cth), the High Court has observed that due weight must be given to the "attainment of the large national and economic objectives of Pt IIIA". These objects include to promote the economically efficient operation of, use of and investment in the infrastructure by which services are provided, thereby promoting effective competition in upstream and downstream markets, which is similar to the objective in section 48(1)(a) of the PMA. See: *BHP Billiton Iron Ore Pty Ltd v National Competition Council* (2008) 236 CLR 145, 161 [42]; *Pilbara Infrastructure Pty Ltd v Australian Competition Tribunal* [2012] HCA 36; 246 CLR 379, 418 [97].

‘sustain’ and ‘sustained’ encompass: ‘to keep up or keep going, as an action or process’ (Macquarie Dictionary[478]) and ‘[T]hat has been sustained; *esp* maintained continuously or without flagging over a long period’ (Oxford English Dictionary[479]). Whether non-compliance is ‘sustained’ is relevantly to be considered in the context of the regime, which requires us to assess compliance with the pricing order over a five-year review period, and which has the important objectives of promoting efficient use of, and investment in, the provision of prescribed services for the long term interests of users and Victorian consumers.

[478] Macquarie Dictionary <macquariedictionary.com.au> (accessed 7 December 2021).

[479] Oxford English Dictionary, 1993.