

Inquiry into the Port of Melbourne compliance with the pricing order

Final report

31 December 2021



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Overview

This executive summary should be read in conjunction with our full report, ‘Inquiry into the Port of Melbourne’s compliance with the pricing order’, which explains the basis of our findings on compliance.

We completed our 2021 inquiry into the Port of Melbourne’s (the Port) compliance with the pricing order for prescribed services in December 2021. This was undertaken under section 49I of the *Port Management Act 1995* (Vic). This is our first inquiry under this section, and it covered the five-year review period from 1 July 2016 to 30 June 2021.

Our findings are based on our review of the tariff compliance statements and supporting information the Port provided to us over 2016–21, over 2,300 documents we received from the Port during our review, and submissions made to the inquiry. We also had regard to the Port’s submission on our draft inquiry report and accompanying consultants’ reports. In reaching our findings, we took advice from our own expert consultants on the Port’s expenditure forecasts, pricing and costing, depreciation, return on assets and demand forecasts.

We provided the Port with the opportunity to review our consultants’ reports and present its response on our draft inquiry report to commissioners in November 2021. Our consultants also reviewed the Port’s consultants’ reports and response to our draft inquiry report.

Our key findings on compliance / non-compliance with the pricing order, and our views on whether that non-compliance was significant and sustained are summarised in the table below and include:

- The Port’s return on capital does not reflect that of a benchmark efficient entity with a similar degree of risk as the Port. That is, the Port’s return on capital is on average two percentage points higher each year over the review period than that of a benchmark efficient entity with a similar degree of risk as the Port. This results in an aggregate revenue requirement that is overstated by between \$300 million to \$650 million over the five-year period.
- This means Victorian consumers in the future may be impacted by prices that are higher than they should be (i.e., higher than the efficient costs).
- When we compare the Port’s return on assets with regulatory benchmarks in the transport infrastructure sector, we find that it remains at the top end of the range across regulated transport infrastructure assets.

- The Port's approach to managing its operating expenses is not consistent with that of a prudent or efficient service provider.
- The Port's tariffs, cost allocation and content of its tariff compliance statements were also not compliant with the pricing order.

Our findings show that there are a number of instances of non-compliance with the pricing order in the review period. We consider that the impact of non-compliance is significant if it does not meet the objectives of the *Port Management Act 1995 (Vic)* and sustained if the impact on these objectives is not fleeting or transitory. These objectives 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.

When we look at the cumulative nature of the Port's non-compliance, our view is that this amounts to both significant and sustained non-compliance in this review period. That is, we consider that it does not promote the efficient use of, and investment in, the provision of prescribed services for the long-term interests of port users and Victorian consumers. Our view is that the non-compliance is not transitory and has significant (future) financial impact. The continuation of the non-compliance may instil a lack of credibility with port users about the commitment to meeting the objectives of the *Port Management Act 1995 (Vic)*.

Our observation is that the existing incentives within the regulatory framework of the *Port Management Act 1995 (Vic)* are not working, and that this has contributed to a finding of significant and sustained non-compliance with the pricing order.

Our findings on the Port's compliance

Area	Finding/ Views	Detail on the Port's compliance
Return on capital	Non-compliant – significant and sustained	<p>We find that the Port's approach to setting the rate of return over the review period was not compliant with the pricing order as its methodology and implementation of the key drivers of the rate of return were not 'well accepted'.</p> <p>Our finding is that the Port's rate of return is, on average, two percentage points higher than our estimated rate of return for a benchmark efficient entity with a similar degree of risk.</p>
Aggregate revenue requirement	Non-compliant – significant and sustained	We find that the Port has over-estimated its aggregate revenue requirement over the review period by between \$300m and \$650m when we apply our compliant rate of return estimates.
Effective consultation with port users	Non-compliant – significant and sustained	We find that the Port has not demonstrated it effectively consulted or had adequate regard to port users' comments in its 2020-21 and 2021-22 tariff compliance statements.
Operating expenditure	Non-compliant – sustained	We find that the Port has not demonstrated its approach to establishing its total operating expenditure for 2019-20 and 2020-21 is prudent and efficient.
Cost allocation	Non-compliant – sustained	We find that the Port has not complied with the cost allocation principles over the review period. Our view is that the impact of the non-compliance is not significant because there is minimal impact on the objectives of the <i>Port Management Act 1995 (Vic)</i> .
Prescribed service tariffs	Non-compliant – sustained	<p>We find that the Port's prescribed service tariffs were non-compliant across several pricing order clauses over the review period.</p> <p>Our view is that the impact of the non-compliance is not significant because there is minimal impact on the objectives of the <i>Port Management Act 1995 (Vic)</i> during the review period.</p>

Content of the tariff compliance statements	Non-compliant - sustained	<p>We find that the Port did not always provide sufficient content on:</p> <ul style="list-style-type: none"> • the effectiveness of its consultation with port users and having regard to comments provided by port users • how tariffs comply with the pricing order • the basis of its forecasts and estimates. <p>Our view is that the impact of the non-compliance is not significant because there is minimal impact on the objectives of the <i>Port Management Act 1995 (Vic)</i> during the review period.</p>
Capital expenditure	Compliant	<p>We find that the Port's approach to capital forecasting, planning and management demonstrates prudence and efficiency. We note that the Port needs a more robust approach in the future as the Port's capital investment program expands.</p>
Depreciation	Compliant	<p>We find that the Port's approach to calculating and applying depreciation in the review period complies with the pricing order. We note that deferred depreciation has a significant impact on port users in the future and we find that the Port did not effectively engage on this issue during the review period.</p>
Demand	Compliant	<p>We find that the Port complied with the information requirements relating to demand forecasts for its prescribed services.</p>

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1. Summary

Our report sets out our views on the Port of Melbourne’s compliance with the pricing order during the period 1 July 2016 to 30 June 2021

This is our first inquiry into the Port of Melbourne’s (the Port) compliance with the pricing order.¹ Under section 49I of the *Port Management Act 1995* (Vic) (PMA), we are required to conduct an inquiry under the *Essential Services Commission Act 2001* (Vic) into:

- a) whether the Port has complied with the pricing order during the relevant review period; and
- b) if there was non-compliance, whether that non-compliance was, in the commission's view, non-compliance in a significant and sustained manner.

The review period for the purposes of this inquiry is from 1 July 2016 to 30 June 2021. Our legal advice on the scope of our inquiry sets out the matters relevant to testing the Port’s compliance with the pricing order in the review period.² The pricing order requires us to review a number of matters as part of the five-yearly review. These matters include the Port’s aggregate revenue requirement, tariffs and prices, capital and operating expenditure forecasts, demand forecasts, return of capital, return on capital and stakeholder consultation.

We have considered if there has been non-compliance with the pricing order during this period, and, if there has been non-compliance, whether that non-compliance was, in our view, non-compliance in a significant and sustained manner.³ If there is a finding of non-compliance, we have outlined how we consider the Port’s non-compliance with the pricing order impacts the objectives of the PMA.

We note that the Port’s prices and tariffs for at least the first 15 years of its licence from 2016 is limited to CPI increases under the tariffs adjustment limit. Compliance with the tariffs adjustment limit over the review period is only one item out of the matters listed above that we are required to assess. Compliance with the tariffs adjustment limit does not mean that any finding of

¹ Victorian Government Gazette, No. S 201, Friday 24 June 2016, as amended by the Victorian Government Gazette, No. S 247, Wednesday 20 May 2020.

² For further information on the scope of our inquiry, refer to the legal advice provided to the commission by Peter Hanks QC and Catherine Dermody in Appendix 9.

³ Clause 4.1.1(a) of the pricing order.

³ We consider that non-compliance is significant if it has a material impact on the objectives of the PMA. If the impact is not transitory or fleeting, we consider that the non-compliance is sustained. This is discussed further in Chapter 2 Our Task.

non-compliance in the other matters of the Port's regulated operations is of less relevance, or is immaterial to the objectives of the PMA. We consider that bringing this finding of non-compliance to the attention of the Port allows it the opportunity to adopt a compliant approach in future periods.

A number of services provided by the Port are 'prescribed services' for the purposes of the PMA. These include:⁴

- the provision of channels for use by shipping in the Port's waters
- the provision of berths, buoys, or dolphins in connection with the berthing of vessels in the port
- the provision of short-term storage or cargo marshalling facilities in Port of Melbourne
- the provision of access to, or allowing the use of, places or infrastructure (including wharves, slipways, gangways, roads and rail infrastructure) on the Port's land
- any other service that is prescribed by the PMA regulations.

The Port's prescribed revenue is around 70 per cent of its total revenue. A person who requests or receives prescribed services is defined by the pricing order as a 'port user'. Port users can include international and domestic shipping lines carrying cargo to and from Melbourne through Port Phillip Bay, stevedores that access and use wharf infrastructure to handle cargo for shipping lines and transport providers, cargo owners and freight forwarders.

We commenced our review on 10 June 2021. We completed our draft inquiry report on 26 October 2021, which outlined our findings on the Port's compliance after:

- review of around 2,300 documents provided by the Port
- consideration of our consultants' reports on the Ports return on capital, return of capital, operating and capital expenditure forecasts, pricing and costing, and demand forecasts
- meetings with port users and other stakeholders
- review of submissions from stakeholders and port users provided to us during our inquiry.

We provided the Port with our draft inquiry report and our consultants' reports for their consideration and comment. The Port provided us with their response to our draft inquiry report on 26 November 2021, including its consultants' report.⁵ We have considered the Port's response and our consultants have reviewed the reports the Port submitted to us with their response. Our considerations have been incorporated into this final report.

⁴ Port Management Act 1995 (Vic), section 49(c).

⁵ The Port presented its response to our draft inquiry report to commissioners on 30 November.

1. Summary

Our final view on areas where the Port is non-compliant

In this final report we find that there has been non-compliance with the pricing order and set out our views on whether that non-compliance was non-compliance in a significant and sustained manner.

A summary of our findings and views are:

The Port's weighted average cost of capital does not reflect that of a benchmark efficient entity with a similar degree of risk as the Port

The pricing order provides that the Port must apply a building block methodology, which provides for 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 determining its aggregate revenue requirement.⁶ To determine its rate of return, 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'.⁷

We have examined the Port's approach to estimating its cost of equity, (including the parameters of the market risk premium and beta), debt, gearing and gamma – all of which are key drivers of its rate of return. Our final finding is that the Port's implementation of the methods to estimate the key drivers do not reflect 'well accepted' approaches and result in a rate of return allowance that is not commensurate with that which would be required by a benchmark efficient entity. As such, our finding is that there has been non-compliance with the pricing order. The Port's weighted average cost of capital (WACC) is on average 200 basis points higher each year over the review period than that of a benchmark efficient entity with a similar degree of risk as the Port.

When we compare the Port's WACC with regulatory benchmarks in the transport infrastructure sector, we find that the Port's WACC remains at the top end of the range across regulated transport infrastructure assets, as shown in Figure 1.1.

We consider this non-compliance is significant. We also consider that non-compliance as sustained because it occurred each year of the review period. Our final finding and views on the Port's return on capital is outlined in Chapter 5 and Appendix 2.⁸

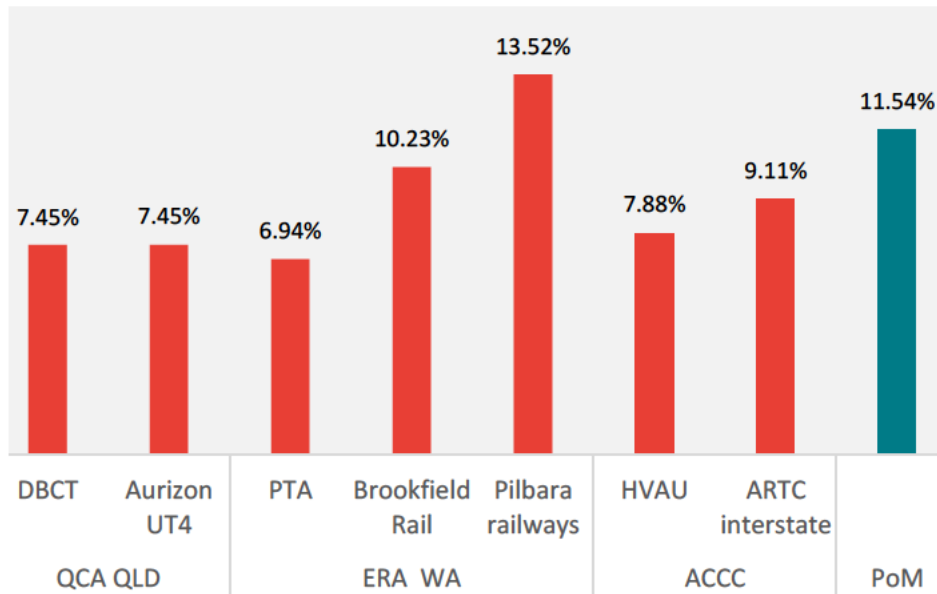
⁶ Clause 4.1.1(a) of the pricing order.

⁷ Clause 4.3.1 of the pricing order.

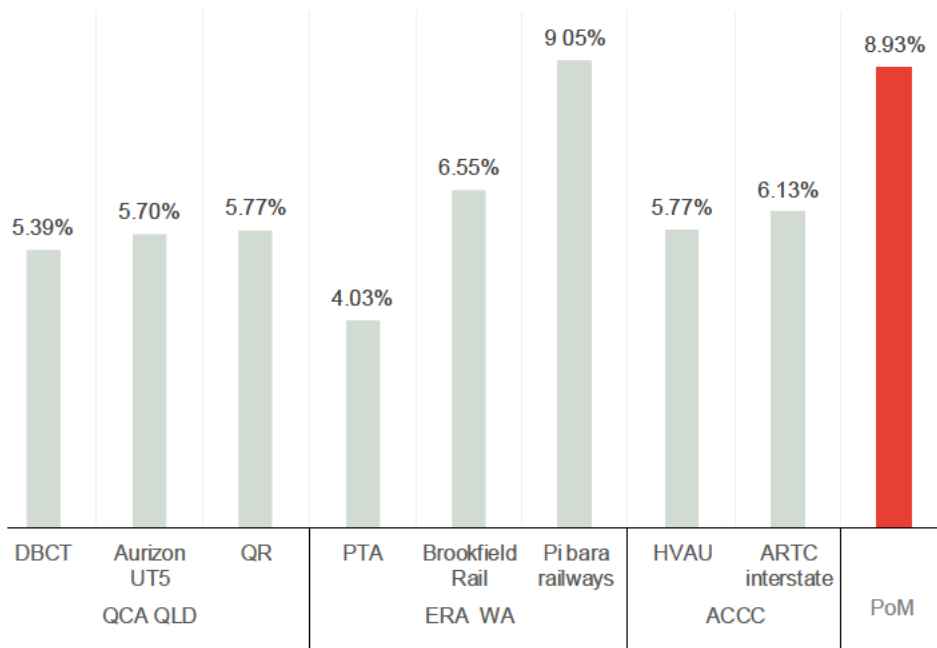
⁸ We also sought advice on the Port's WACC over the review period from our consultant CEPA.

Figure 1.1: Comparison of the Port's WACC with regulatory benchmarks in the transport infrastructure sector

2017-18: the Port's (PoM) WACC is at the top end of the range



2020-21: the Port's (PoM) WACC is at the top end of the range



Sources: QCA – Queensland Competition Authority; ERAWA – Economic Regulation Authority Western Australia; ACCC – Australian Competition and Consumer Commission and the Port.

Note: DBCT is Dalrymple Bay Coal Terminal, UT4 is Aurizon Network's 2016 Access Undertaking, UT5 is Aurizon Network's 2017 Access Undertaking, Brookfield Rail has changed its name to Arc Infrastructure, PTA is Public Transport Authority, HVAU is Hunter Valley Access Undertaking, ARTC is Australian Rail Track Corporation, and PoM is the Port.

1. Summary

The Port's revenue requirement is overstated by around \$300 million and \$650 million

We recalculated the Port's aggregate revenue requirement using our estimation range of rates of return on capital over the review period. We found that the Port has overstated its aggregate revenue requirement by between \$300 million to \$650 million compared to a benchmark efficient entity providing services with a similar degree of risk as the Port.⁹ We note that this does not currently directly impact port users or Victorian consumers in terms of the tariffs they are charged as the Port has a tariffs adjustment limit (price cap), which limits the amount of revenue it can earn until around 2032. Our view is that the Port's overstatement of its aggregate revenue requirement will have a significant impact on port users in the future. We consider that the non-compliance with clause 4.1 is both significant and sustained, as it occurred each year of the review period.

Our estimation of the Port's aggregate revenue requirement is outlined in Chapter 4.

The Port's approach to managing its operating expenses is not consistent with that of a prudent or efficient service provider

In connection with the Port's operating expenses, we find that the Port has not complied with clause 4.1.1(c) of the pricing order because it has not demonstrated its total operating expenditure for the review period is consistent with that of a prudent provider acting efficiently. In particular, we consider the Port's forecasting methodology was not sufficiently robust and did not support its forecasts in the last two years of the review period. On this basis, we also find that the Port's forecasts for 2019-20 and 2020-21 did not comply with clause 8.2.2 of the pricing order.¹⁰

We find that the Port Rail Transformation Project costs complied with clauses 4.5.3 and 4.5.4 of the pricing order. We also find that the Port's forecasts for its Port Licence Fee and Cost Contribution Amounts were appropriate.

Our view is that the Port's non-compliance in respect of operating expenditure is not significant given the Port's forecasts are not materially overstated. We consider that bringing this finding of non-compliance to the attention of the Port allows it the opportunity to adopt a compliant approach in future periods.

Our view is that the Port's non-compliance is sustained as it occurred in the last two years of the review period.

⁹ We had our approach and calculation of the Port's overstatement of its revenue requirement independently verified by CEPA.

¹⁰ Clause 8.2.2 states a 'forecast or estimate: (a) must be arrived at on a reasonable basis; and (b) must represent the best forecast or estimate possible in the circumstances.'

1. Summary

Our final finding and views on the Port's operating expenditure is outlined in Chapter 6.

The Port's tariffs, cost allocation and content of its tariff compliance statements were not compliant

We found evidence where the Port's prescribed service tariffs did not comply with the pricing order during the review period – except for 2016-17. During the review period, we found the Port has not complied with:

- recovering the efficient cost of providing all prescribed services determined by the accrual building block methodology (clause 2.1.1(a))
- using audited revenue to calculate the weighted average tariff increase (clause 3.1)
- when and how it can make a tariff rebalancing application (clause 3.2)
- the requirements for annual tariff compliance statements (clause 7)
- information requirements for the Port's data (clause 8).

Our finding is also that the Port has not complied with the cost allocation principles (clause 5.2.1 of the pricing order) across the review period.¹¹

We also found that some content of Port's tariff compliance statements was non-compliant, but we were able to source additional information from the Port to inform our inquiry (refer to Appendix 5).¹²

Our view is that the Port's non-compliance in relation to pricing and cost allocation is not significant as there is a negligible price impact on port users now or in the future, that is, it does not significantly impact the PMA objective 'ensuring that prescribed prices are fair and reasonable'. However, our view is that we consider the non-compliance is sustained across the review period as it occurred in a number of years.

Our final findings and views on the Port's approach to pricing and costing is outlined in Chapters 9 and 11 and Appendices 3 and 4.

The Port did not effectively consult or have adequate regard to port users' comments

Our finding is that the Port has not complied with clause 7.1.2(d) of the pricing order in 2020-21 and 2021-22 tariff compliance statements. We consider that its tariff compliance statements did not

¹¹ By cost allocation we mean the Port's mapping of operating expense categories and asset classes between prescribed and non-prescribed services.

¹² Note, we requested additional information from the Port on 1 July 2021 by issuing a notice under section 56 of the PMA, which is available on our website.

contain sufficient information to demonstrate that it had effectively consulted or had adequate regard to port users' comments. The lack of effective consultation means we cannot find that the Port could make choices between competing interests in the long-term interests of consumers.

Our view is that the Port's non-compliances in 2020-21 and 2021-22 tariff compliance statement consultation was in a sustained manner. This was due to the repeated findings of insufficient evidence or non-compliant events that demonstrated the Port did not effectively consult, or adequately have regard to port user views. We consider that by this stage the Port had completed its transition phase, where it had established consultation processes as part of its four key engagement programs and other consultation areas.¹³

Over the last two years, the Port's consultation did not provide port users with appropriate information to enable them to make meaningful contributions. In addition, the Port did not have regard to some port user comments in these two years. Port users were also excluded from opportunities to be consulted on matters of significant impact notably for Webb Dock East.

Our view is that the Port's 2020-21 and 2021-22 non-compliances were also in a significant manner as the lack of effective consultation and consideration of port users views on important issues shown by the Port has impacted stakeholder's confidence in the integrity of the regulatory framework that is designed to protect the interests of Victorian consumers. This lack of confidence in the Port is inconsistent with the promotion of objectives of the PMA, which includes the efficient use of, and investment in, the provision of prescribed services for the long-term interests of users and Victorian consumers. That is, we find the non-compliance in consultation has material consequence for all port users.

Our consultation assessment framework allowed us to reach several findings over the review period. Our findings were informed by engagement documents (over 1,200) provided to us by the Port through our information notice issued under section 56 of the PMA. We validated issues raised in confidential submissions with the documents provided by the Port. We reviewed key strategic documents including the Port Development Strategy, Industry Updates, Rail Access Strategy and engagement reports for the Port Rail Transformation project and the Big Ships Strategy.

¹³ The Port's 2017-18 tariff compliance statement shows it was establishing its internal and external stakeholder engagement approaches. The Port also provided evidence it informed ports users and other stakeholders about the new operating environment, and it was trying to understand their needs and interests. [REDACTED]

[REDACTED] In 2017-18, the Port was largely engaging on the beginnings of its Port Development Strategy and rail projects.

1. Summary

Our draft report outlined the key themes in the stakeholders' confidential submissions, allowing the Port consideration of the issues raised in confidential submissions and an opportunity to respond to it in its review of our draft report.

Our final findings and views on the Port's stakeholder consultation is outlined in Chapter 12 and Appendix 6.

Our final view on areas where the Port is compliant

We consider that the Port was compliant in several areas including its estimation of the cost of debt, capital base and its approach to calculating depreciation. We also consider that the Port's capital expenditure forecasts were prudent and efficient, and its demand forecast generally reflected a sound methodology. We also found instances where the Port correctly calculated its tariffs and applied its costing methodology.

While we consider that the Port's approach in the review period to estimating its capital expenditure forecast was appropriate given the level and nature of the capital expenditure undertaken during the period, we would expect a greater level of assurance – for example, more detailed business cases, appropriate level of contingencies – for planned future larger and more complex capital expenditure.

The Port has calculated its depreciation charges over the review period using a straight-line methodology, however, has not collected any depreciation because the amount of revenue that could be raised is constrained by the tariffs adjustment limit.¹⁴ When the Port's calculated aggregated revenue requirement is higher than the tariffs adjustment limit revenue, its regulatory models are designed to default depreciation to zero and defer all unrecovered depreciation into the future.

We consider that the Port's approach to depreciation is compliant with the pricing order.¹⁵ We also note that port users are seeking greater understanding of the impact of deferred depreciation on future tariffs. We observe that the Port is beginning to consider future implications of deferred depreciation.¹⁶

¹⁴ Clauses 4.4.1(a) and (b) of the pricing order.

¹⁵ However, for a year in which the tariffs adjustment limit would not prevent any amount of depreciation to be recovered, we would face difficulty in assessing compliance or non-compliance because paragraph 4.4.2(a) of the pricing order could then be open to more than one possible interpretation of what is required.

¹⁶ In the Port's 2021-22 tariff compliance statement, the Port is considering adopting a tilted annuity approach to depreciation, which may assist in managing any future price shocks arising from deferring depreciation.

1. Summary

Our views in these areas are outlined in Chapters 4, 5, 7, 8, 9, 10 and Appendices 3 and 4.

When we look at the cumulative nature of the Port's non-compliance with the pricing order, we consider it amounts to both significant and sustained non-compliance

Across the review period, we consider there are a number of instances of non-compliance: in return on capital, calculation of its aggregate revenue requirement, engagement, operating expenditure, and pricing and costing.¹⁷ The most significant of these areas are: in return on capital and aggregate revenue requirement. The most sustained of these areas are:

- in engagement
- return on capital
- operating expenses
- aggregate revenue requirement
- and pricing and costing.

As noted above, our view is that the overstatement of the Port's aggregate revenue requirement is driven by a rate of return that is persistently higher than that of a benchmark efficient entity with a similar degree of risk as the Port. This means Victorian consumers in the future will be impacted by prices that are higher than they should be (i.e., higher than the efficient costs).

As noted above, the Port's consultation (in its 2020-21 and 2021-22 tariff compliance statements) does not promote the objectives of the PMA. That is, we consider that it does not promote the efficient use of, and investment in, the provision of prescribed services for the long-term interests of users and Victorian consumers. The Port's consultation informs its capital planning and nearer term infrastructure investments, which will ultimately become incurred capital costs. The Port recovers its capital costs from port users, who will seek to recover them from the broader supply chain that ends with Victorian consumers. If port users are not adequately informed and do not have an opportunity to meaningfully contribute to the Port's consultation, then investment decisions (by the Port and port users) may not be prudent or efficient, which has a significant impact on port users and the Port supply chain.

¹⁷ That is, non-compliance with clauses 2.1.1(a), 3.1.1, 3.2.3, 4.1.1(a), 4.1.1(c), 4.3.1, 5.2.1, 7.1.2(d), 7.1.2(e), 7.1.2(g) and 8.2.2 of the pricing order.

1. Summary

Our observation is that the regulatory framework incentives are not working

Our view is that the incentives within the regulatory framework are not meeting the objectives of the PMA which are to, amongst others:¹⁸

- (a) to promote efficient use of, and investment in, the provision of prescribed services for the long-term interests of users and Victorian consumers; and
- (b) to protect the interests of users of prescribed services by ensuring that prescribed prices are fair and reasonable whilst having regard to the level of competition in, and efficiency of, the regulated industry
- (c) to allow the Port a reasonable opportunity to recover the efficient costs of providing prescribed services, including a return commensurate with the risks involved.

We consider that there are inadequate incentives to correctly apply the regulatory framework, which allows for significant and sustained non-compliance with the pricing order. That is, non-compliance that is not transitory and has significant (future) financial impact. The continuation of the non-compliance may instil a lack of credibility with port users about the commitment to meeting the objectives of the PMA.

We find that this cumulative nature of the Port's non-compliance can be considered significant and sustained and is not in the long-term interests of Victorian consumers.

¹⁸ Section 48(1) of the Port Management Act 1995 (Vic).

2. Our task

2.1. Procedural requirements

We are required to conduct and complete the review by 31 December 2021 and to report to the ESC's Minister (Assistant Treasurer) on:

- a) the commission's findings as to whether there has been non-compliance with the Pricing Order and whether that is, (in the commission's view) non-compliance in a significant and sustained manner; and
- b) the commission's reasons for those findings.

The inquiry is required in accordance with Part 5 of the *Essential Services Commission Act 2001* (Vic) (but sections 40 and 46 do not apply). We published a notice of inquiry on 10 June 2021 and held the inquiry from June 10 to mid-December 2021, with it being completed by 31 December 2021. Members of the public were able to make submissions in response to our notice of inquiry. We published a summary of our public engagement process on 16 September 2021 and a summary of issues raised by stakeholders in their public and confidential submissions. We updated the summary in December 2021 to include our processes and stakeholder feedback since September.

2.2. Scope of our inquiry

We sought legal advice and were advised that the scope of our inquiry is to assess the Port's compliance with the pricing order over the review period 30 June 2016 to 1 July 2021. This advice was considered and accepted by the commission. We also made our legal advice public and is available on our website www.esc.vic.gov.au. 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 our inquiry.¹⁹

However, the stakeholder consultation relevant to this project, which occurred in the review period, is in scope. As a consequence, the decision to proceed with the Webb Dock East 'knuckle' removal project that was made by the Port after 1 July 2021 is outside the scope of the inquiry. In addition,

¹⁹ For further information on the scope of our inquiry, refer to the legal advice provided to the commission by Peter Hanks QC and Catherine Dermody in Appendix 9. As per page 14 of the advice, we have not assessed the Port's forecast capital expenditure for its proposed extension to Webb Dock East berths 4 and 5 in 2021-22 and beyond.

we have not assessed the Port's tariff compliance statement provided by 31 May 2021 as this relates to the financial year commencing 1 July 2021 – that is the next period.

Both the Port and Patrick Terminals provided submissions in response to our published legal advice disagreeing in different respects with different aspects of our interpretation of the scope of our inquiry into the Port's compliance with the pricing order. The Port considers the 2021-22 tariff compliance statement is within the scope of our 5-yearly inquiry. Patrick Terminals considers that the forecast capital expenditure for the WDE Expansion Project, the WACC and depreciation matters in the 2021-22 tariff compliance statement is within scope of the 5-yearly review.²⁰

We have considered Patrick Terminal's and the Port's submission and have proceeded to undertake the inquiry based on the Peter Hanks QC – Catherine Dermody opinion. Patrick Terminals and the Port's submissions can be found on our website at www.esc.vic.gov.au.

2.3. Key steps in our process

June 2021 - we commenced our inquiry on 10 June by gazetting our notice of inquiry.

July 2021 - we issued the Port on 1 July an information notice under section 56 of the PMA on its expenditure, demand, return on capital, depreciation and pricing, and costing over the review period. In response, the Port provided over 2,300 documents over five months, which we and our consultants reviewed to inform our inquiry.²¹ More detail on the information notice under section 56 of the PMA is outlined on our website at www.esc.vic.gov.au.

We held a virtual public forum on 15 July to outline our proposed approach to the inquiry and key issues to Port's stakeholders. The Port, Shipping Australia Limited, DP World Australia and Patrick Terminals also presented at the public forum. We invited stakeholders to comment and received 16 submissions (some of which were provided on a confidential basis and some stakeholders provided multiple submissions). All public submissions are available on our website at www.esc.vic.gov.au and outlined in Appendix 7.

We also held one-on-one stakeholder engagements, including with the Port, which continued through to August 2021.

²⁰ While both Patrick Terminals and the Port consider that the WDE Expansion Project is within the scope of the 5-yearly review, Patrick's consider this Project is inconsistent with the relevant regulatory regime, while the Port disagrees with this view.

²¹ We sought advice from consultants on the Port's expenditures, demand, pricing and costing, WACC and depreciation over the review period.

2. Our task

August – September 2021 – we continued engaging with key stakeholders, including government departments and statutory bodies. We also considered all written stakeholder submissions on issues relevant to our inquiry and arranged stakeholder presentations on their written submission to our commissioners. We published a summary of our public engagement process on 16 September and a summary of issues raised by stakeholders in their public and confidential submissions.

October – November 2021 – we provided the Port with our draft inquiry report on 26 October and received the Port's submission on our draft report on 26 November, including reports by the Port's consultants.

November – December 2021 – we had regard to the Port's submission and our consultants reviewed the Port's consultant's reports, that were provided with its submission. We met with the Port, who also presented its submission to commissioners. After consideration of the Port's submission and consultants' reports, we finalised our inquiry report and submitted it to the Assistant Treasurer by 31 December 2021.

2.3.1. Our interactions with the Port

Throughout our review, and since June 2021, we have met with the Port on a number of occasions to discuss information requirements to inform our review. This involved one on one meetings with commission staff, a presentation at our public forum, meetings with some of our consultants and also reviewing our consultants' reports, and presentation to commissioners on how the Port considers it has complied with the pricing order.

2.3.2. How we have considered stakeholder submissions in our inquiry

During our review we have had regard to all stakeholder submissions we have received. We have only referenced submissions that directly relate to an issue being discussed in this report.

2.3.3. The documents we reviewed to form our views on the Port's compliance with the pricing order over the review period

Our views on the Port 's compliance with the pricing order was informed by:

- The tariff compliance statements submitted by the Port over 2016 to 2021 and accompanying consultants' reports. We note that we only reviewed the stakeholder consultation outlined in the Port's 2021-22 tariff compliance statement as the other matters in this tariff compliance statement are outside the scope of the review (refer to our legal advice in Appendix 9).
- Over 2,300 documents we received from the Port through our information notice issued under section 56 of the PMA.

2. Our task

- Key strategic documents including the Port Development Strategy, Industry Updates, Rail Access Strategy and engagement reports for the Port Rail Transformation project and the Big Ships Strategy.
- Our consultants' reports – our consultants include FTI Consulting, Cambridge Economic Policy Association (CEPA) and PricewaterhouseCoopers.
- The Port's response to our draft inquiry report and accompanying consultants' reports.
- Stakeholder submissions provided to us during our inquiry.

2. Our task

3. Our assessment approach

This is our first inquiry into the Port's compliance with the pricing order.²² Under section 49I of the PMA, we are required to conduct an inquiry under the *Essential Services Commission Act 2001* (Vic) into:

- a) whether the Port has complied with the pricing order during the relevant review period; and
- b) if there was non-compliance, whether that non-compliance was, in the commission's view, non-compliance in a significant and sustained manner.

The review period for the purposes of this inquiry is the period from 1 July 2016 to 30 June 2021.²³ We have considered if there has been non-compliance with the pricing order and, whether that non-compliance was, in our view, non-compliance in a significant and sustained manner.

3.1. Statement of regulatory approach, tariff compliance statements and interim commentaries

The statement of regulatory approach sets out our compliance roles, and then provides guidance to the port on how it should demonstrate compliance with the pricing order, including through information provided in its tariff compliance statements.

In relation to years two to five of the review period, the pricing order required the Port to provide the commission, by 31 May in each financial year, a tariff compliance statement which (along with other things):

- a) sets out the prescribed service tariffs for the forthcoming financial year
- b) explain how the prescribed service tariffs comply with the pricing order, including the pricing principles
- c) complies with the requirement 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.

²² Victorian Government Gazette, No. S 201, Friday 24 June 2016, 1, as amended by the Victorian Government Gazette, No. S 247, Wednesday 20 May 2020.

²³ For further information on the scope of our inquiry, refer to the legal advice provided to the commission by Peter Hanks QC and Catherine Dermody on inquiry scope advice at Appendix 9.

All terms mentioned above retain their meaning in this document based on the pricing order definition.

During the review period we considered each tariff compliance statement provided by the Port and have published interim commentaries in connection with those tariff compliance statements. In publishing these interim commentaries, we sought to identify where we considered the Port's application of the accrual building block methodology prescribed by the pricing order may raise questions as to compliance with those requirements. The interim commentaries do not have any legal status and we have undertaken this inquiry as a distinct and standalone process from those interim commentaries.

3.2. Decision-making rule

Our inquiry is directed at considering whether the Port has complied with the pricing order during the review period and, if there was non-compliance, whether that non-compliance was, in our view, non-compliance in a significant and sustained manner. Importantly, and as noted above, we are required to report on whether there has been non-compliance and, if so, whether in the commission's view, that non-compliance was in a significant and sustained manner. That is, the commission is required to form a view as to whether it considers that any non-compliance it has identified was significant and sustained.

We consider that there will be non-compliance with the pricing order where there has been a failure or refusal to comply with one or more requirements of the pricing order.

When we consider 'non-compliance in a significant and sustained manner' we consider whether the purpose of the PMA and the objective of Part 3 of the PMA have been met. These objectives 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.

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'.²⁴

For non-compliance to be 'significant' there must be something more than mere non-compliance. 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 important economic objectives, including promotion of the efficient use of, and investment in, the provision of prescribed services.²⁵

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. 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.

Our full discussion on 'significant and sustained non-compliance' is outlined in Appendix 10.

²⁴ Macquarie Dictionary <macquariedictionary.com.au> (accessed 3 December 2021),

²⁵ 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].

3. Our assessment approach

4. Our final views on the degree of non-compliance

Our view is that the Port's non-compliance with the pricing order is both significant and sustained.

The Port has overstated its aggregate revenue by \$300 million and \$650 million over the review period, which we consider reflects both significant and sustained non-compliance.

The cumulative nature of the Port's non-compliance – that is, non-compliance in return on capital, aggregate revenue requirement, consultation with stakeholders, operating expenses, and pricing and costing – indicates non-compliance that is not transitory, which has significant (future) financial impact and instils a lack of credibility with port users about the commitment to meeting the objectives of the PMA.

Our view is that this can undermine the stability of the regulatory framework. We find that this cumulative nature of the Port's non-compliance is significant and sustained.

Our finding is that the Port's capital base is compliant with the pricing order.

This chapter sets out our views on whether we consider the Port's non-compliance is significant and sustained over the review period. We set our decision-making rule for how we will consider 'significant' and 'sustained' non-compliance in section 3.2.

We first cover non-compliance with aggregate revenue requirement and capital base (also known as regulated asset base) and outline why we consider it significant and sustained based on our review of its various components as discussed throughout the report.

4.1. Aggregate revenue requirement

We find that over the review period the Port has over-estimated its Aggregate Revenue Requirement (ARR).

We consider that the Port's:

- Calculation of return of capital and indexation allowance, both components of the aggregate revenue requirement is compliant with the pricing order.
- Implementation of the following components of the ARR are not compliant with the pricing order: return on capital and operating expenses. Our detailed assessment of the 'return on capital' is outlined in Chapter 5 and the 'operating expenses' is outlined in Chapter 6.

The aggregate revenue requirement is the level of revenue that provides the Port with a reasonable opportunity to recover a rate of return on prudent and efficient capital expenditure on assets, a return of the cost of investing in those assets (through depreciation), prudent and efficient operating costs, and an indexation allowance over 2016 to 2021, the review period.

Clause 4.1.1 of the pricing order sets out the Accrual Building Block Methodology to determine the aggregate revenue requirement over a regulatory period. The application of the methodology involves calculating the aggregate revenue requirement by the Port over the specified regulatory period by separately estimating the value of the underlying components or 'building blocks' of allowable revenue, having regard to the efficient capital and operating cost requirements in providing the services delivered by the Port. The methodology as set out in clause 4.1.1 comprises four building block elements summarised as follows:

- a) an allowance to recover the return on the capital base (clauses 4.2 and 4.3)
- b) an allowance to recover the return of capital (clause 4.4) and
- c) an allowance to recover forecast operating expenses (clause 4.5); less
- d) an indexation allowance (clause 4.6).

Three of the building block elements/allowances are additive in the calculation of aggregate revenue requirement, while the indexation allowance is a deduction.

4.1.1. Port of Melbourne's approach and our consideration

Our view on the Port's approach to estimating each of the aggregate revenue requirement components is summarised in Table 4.1.

Table 4.1: Summary of our view on the Port’s approach to estimating its ARR

ARR components ²⁶	Our view on compliance	Refer to chapter/section
(a) Return on capital The return on the capital base is a function of two components: the Port’s capital base and weighted average cost of capital (WACC).	Capital base – compliant Return on capital – Not compliant	Section 4.2 Chapter 5
(b) Return of capital (depreciation)	Compliant	Chapter 8
(c) Forecast operating expenses	Not compliant	Chapter 6
(d) Indexation allowance ²⁷ The Port has calculated the indexation allowance, for each year, as an amount equal to the sum of: <ul style="list-style-type: none"> 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 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. 	Compliant	-

As noted in Table 4.1, our findings of the aggregate revenue requirement building block elements of depreciation, operating expenses and return on capital are outlined in detail in this report.

²⁶ We identified presentation issues in the Port’s 2016-17 to 2018-19 tariff compliance statements in 2018 that made it difficult to assess its calculation of the ARR against the requirements of clause 4.1.1. However, the Port addressed these issues in response to our concerns to ensure transparency in its approach to calculating the ARR in subsequent tariff compliance statements.

²⁷ Clause 4.6 provides for a negative adjustment to ARR because compensation for inflation is provided through both the capital base (via indexation, clause 4.2.1(b)) and WACC (via nominal rate of return, clause 4.3.2) to prevent double compensation for inflation.

4. Our final views on the degree of non-compliance

4.2. Capital Base

We find that the Port's calculation of the capital base in its regulatory models over the review period is compliant with clause 4.2.1 of the pricing order.

The capital base (also commonly known as regulated asset base or value) is an integral component of the Aggregate Building Block Methodology as it is used in the calculation of both the return on and return of capital (depreciation) components of the Port's aggregate revenue requirement. The capital base directly affects the revenues of the Port, and the prices charged by the Port to its end users.²⁸

The Port must calculate the value of the capital base on a 'roll forward basis'.²⁹ Specifically, the Port is required to define its capital base at any particular time by:

- a) taking the starting value of the capital base at the beginning of a financial year³⁰
- b) adding an indexation allowance to adjust the capital base for the effect of inflation
- c) adding efficient capital expenditure that has been, or will be, prudently incurred during that financial year
- d) deducting an allowance for the return of capital (depreciation).

Our view is that the Port has calculated its capital base according to clause 4.2.1 of the pricing order.

We then re-calculated the aggregate revenue requirement based on our view of the Port's WACC to determine the aggregate revenue requirement we consider compliant with the pricing order, and to establish the extent of the over-estimation of the Port's aggregate revenue requirement.

4.3. Our approach to estimating significant and sustained non-compliance

To assess whether non-compliance is 'significant' for each regulatory period we re-estimated the Port's aggregate revenue requirement using our input assumptions on WACC (low and high WACC scenarios) and calculated the difference between the re-estimated aggregate revenue requirement and the aggregate revenue requirement from the Port's models provided with each

²⁸ Clause 4.2 of the pricing order sets out how the Port must calculate its capital base.

²⁹ Clause 4.2.1 of the pricing order.

³⁰ The initial capital base as of 1 July 2016 is determined by applying the asset values specified in clause 4.7 of the pricing order.

tariff compliance statement for each regulatory period. We consider the Port's non-compliance is 'sustained' if the calculated difference is present in more than one year of the review period.

Our approach to calculate this difference was as follows:³¹

1. We used the Port's regulatory models for each of the regulatory periods. The tariff compliance statements for 2018-19, 2019-20, and 2020-21 regulatory models covered each of their respective regulatory periods. The regulatory model provided with the 2017-18 tariff compliance statement covered the periods 2016-17 and 2017-18.
2. The modelled aggregate revenue requirement used a low WACC estimate (scenario 1) and a high WACC estimate (scenario 2).³² Table 4.2 shows the Port's WACC values and our low and high WACC for each year of the review period.
3. We then calculated the difference between our re-estimated aggregate revenue requirement and the Port's aggregate revenue requirement for each regulatory period using our low WACC (scenario 1) and our high WACC (scenario 2).
4. The difference in aggregate revenue requirement for each year of the review period indicated the extent of the Port's non-compliance.

Table 4.2: Weighted average cost of capital (WACC) over 2016 to 2021

	2016-17	2017-18	2018-19	2019-20	2020-21
Port's WACC	11.54%	11.54%	11.52%	10.46%	8.93%
Commission's findings:					
WACC – low (scenario 1)	8.25%	8.45%	8.37%	7.13%	6.01%
WACC – high (scenario 2)	9.93%	10.40%	10.03%	8.54%	8.26%

Source: The Port's 2017-18, 2018-19, 2019-20 and 2020-21 tariff compliance statements; CEPA, 'Port of Melbourne five-year review – WACC', September 2021.

4.3.1. Our estimation of the level of non-compliance

Our calculation of the Port's aggregate revenue requirement³³ under both scenarios demonstrates that the Port has overstated its aggregate revenue requirement for each year of the review period.

³¹ We engaged an external consultant to review and provide assurance of our approach.

³² Scenario 1 – we replaced the Port's WACC values for each year with our WACC values on the low end of our estimated range. Scenario 2 – we replaced the Port's WACC values for each year with our WACC values on the high end of our estimated range. Refer to table 4.2.

³³ Based on the Port's alternative ARR presentation which includes return on capital, operating expenditure, indexation, and return of capital to the extent that this can be recovered within the tariffs adjustment limit.

4. Our final views on the degree of non-compliance

Table 4.3 shows that the Port's aggregate revenue requirement has been overstated by \$656.1 million under scenario 1 (low WACC) and by \$304 million under scenario 2 (high WACC) over the review period.

Table 4.3: Port's ARR compared to commission's estimated ARR over 2016 to 2021 (\$ million)

	2016-17	2017-18	2018-19	2019-20	2020-21	Total
Port's ARR	528.4	515.6	538.9	549.7	454.7	2,587.3
Commission's findings:						
ARR – scenario 1	391.2	381.9	396.9	396.0	365.3	1,931.2
- Variance	137.2	133.7	142.0	153.7	89.4	656.1
- Potential recovery of depreciation	0.0	0.0	0.0	0.0	49.6	49.6
ARR – scenario 2	461.3	466.3	471.7	461.1	422.8	2,283.3
- Variance	67.1	49.2	67.1	88.6	31.9	304.0
- Potential recovery of depreciation	0.0	0.0	0.0	0.0	0.0	0.0

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

The Port has constructed its regulatory models to allow recovery of depreciation (either in full or partially) during periods when the revenue subject to tariffs adjustment limit is less than its calculated aggregate revenue requirement.

Our review of the Port's regulatory models confirms the Port has calculated its depreciation charges over the review period using a straight-line methodology, however collected zero depreciation because the revenue it can collect is less than its aggregate revenue requirement (which includes the efficient level of depreciation costs) due to the constraints imposed by tariffs adjustment limit.³⁴

When the Port's calculated aggregate revenue requirement is higher than the tariffs adjustment limit revenue, the Port's regulatory models are designed to default depreciation to zero (as shown in Table 4.3) and defer all unrecovered depreciation into the future. The greater the aggregate

³⁴ Clauses 4.4.1(a) and (b) of the pricing order.

4. Our final views on the degree of non-compliance

revenue requirement the Port earns, during the tariffs adjustment limit period, the more depreciation it can defer into future periods.

The Port's approach to calculating depreciation compliant with the pricing order is a separate matter to its approach to establishing an aggregate revenue requirement compliant with the pricing order. Depreciation is discussed further in Chapter 8. However, for clarity, it is important to note that depreciation over the review period has been earned, then deferred to future periods (except for one year as noted below) when we apply our calculation of a compliant WACC.

Our scenarios apply the high and the low WACC to the Port's pricing models over the review period. Under both scenarios, our modelling demonstrates that the Port is recovering around \$300 million and \$650 million more aggregate revenue requirement than a benchmark efficient entity with a similar degree of risk as the Port, which will impact future tariffs. We have not quantified the impact on future tariffs. As outlined above, our task is to assess if the Port's aggregate revenue requirement over the review period meets the requirements of clause 4.1.1 of the pricing order.

Under scenario 1, for the period 2020-21, our calculation indicates that the Port could potentially recover some of its unrecovered depreciation.³⁵ That is, for 2020-21, the Port could have potentially earned some depreciation in current prices, which would reduce the level of deferred depreciation that it anticipates will need to be recovered from prices in the future.

4.3.2. Our final views whether the non-compliance is significant and sustained

We consider the Port's non-compliance is significant because our calculation of the Port's aggregate revenue requirement under both scenarios showed that its overstatement of its aggregate revenue requirement was materially high (around \$656.1 million under scenario 1 and \$304 million under scenario 2). Under scenario 1, the Port could potentially recover some of its depreciation. By not partially recovering its depreciation, the Port is earning a higher return on its capital base than it should³⁶ and will unfairly charge higher rates to the future users of the Port.

We consider the Port's non-compliance is sustained because it has occurred in each year of the review period.

³⁵ The unrecovered depreciation is the sum of all the straight-line depreciation from prior periods (indexed) plus the straight-line depreciation for the current period.

³⁶ The Port does not deduct depreciation on its capital base during the review period (due to the tariffs adjustment limit constraint), resulting in an increasing capital base.

4. Our final views on the degree of non-compliance

4.4. When we look at the cumulative nature of the Port's non-compliance with the pricing order, we consider it reflects both significant and sustained non-compliance

Across the review period, we consider there are a number of instances of non-compliance: in engagement, operating expenditure, pricing and costing, and return on capital.³⁷ The most significant of these areas are: in return on capital and aggregate revenue requirement. The most sustained of these areas are: in engagement, return on assets, aggregate revenue requirement and pricing and costing.

As noted above, our view is that the overstatement of the Port's aggregate revenue requirement is driven by a rate of return that is persistently higher than that of a benchmark efficient entity. This means Victorian consumers in the future will be impacted by prices that are higher than they should be (i.e., higher than the efficient costs).

The Port's consultation (in its 2020-21 and 2021-22 tariff compliance statements) does not promote the objectives of the PMA. That is, we consider that it does not promote the efficient use of, and investment in, the provision of prescribed services for the long-term interests of users and Victorian consumers. The Port's consultation informs its capital planning and nearer term infrastructure investments, which will ultimately become incurred capital costs. The Port recovers its capital costs from port users, who will seek to recover them from the broader supply chain that ends with Victorian consumers. If port users are not adequately informed and do not have an opportunity to meaningfully contribute to the Port's consultation, then investment decisions (by the Port and port users) may not be prudent or efficient, which has a significant impact on port users and the port supply chain.

4.4.1. Our observation is that the regulatory framework incentives are not working

Our view is that the incentives within the regulatory framework are not meeting the objectives of the PMA which are to, amongst others:³⁸

- (a) to promote efficient use of, and investment in, the provision of prescribed services for the long-term interests of users and Victorian consumers; and
- (b) to protect the interests of users of prescribed services by ensuring that prescribed prices are fair and reasonable whilst having regard to the level of competition in, and efficiency of,

³⁷ That is, non-compliance with clauses 2.1.1(a), 3.1.1, 3.2.3, 4.1.1(a), 4.1.1(c), 4.3.1, 5.2.1, 7.1.2(d), 7.1.2(e), 7.1.2(g) and 8.2.2 of the pricing order.

³⁸ Section 48(1) of the Port Management Act 1995 (Vic).

4. Our final views on the degree of non-compliance

the regulated industry

(c) to allow the Port a reasonable opportunity to recover the efficient costs of providing prescribed services, including a return commensurate with the risks involved.

We consider that there are inadequate incentives to correctly apply the regulatory framework, which allows for significant and sustained non-compliance with the pricing order. That is, non-compliance that is not transitory and has significant (future) financial impact. The continuation of the non-compliance may instil a lack of credibility with port users about the commitment to meeting the objectives of the PMA.

We find that this cumulative nature of the Port's non-compliance can be considered significant and sustained and is not in the long-term interests of Victorian consumers.

4.5. Our final view on areas where the Port is compliant

We consider that the Port was compliant in several areas including its estimation of the cost of debt, capital base and its approach to calculating depreciation. We also consider that the Port's capital expenditure forecasts were prudent and efficient, and its demand forecast generally reflected a sound methodology. We also found instances where the Port correctly calculated its tariffs and applied its costing methodology.

While we consider that the Port's current approach to estimating its capital expenditure forecast is appropriate given the level and nature of the capital expenditure undertaken during the period, we would expect a greater level of assurance – for example, more detailed business cases, appropriate level of contingencies – for planned future larger and more complex capital expenditure.

The Port has calculated its depreciation charges over the review period using a straight-line methodology, however, has not collected any depreciation because the tariffs adjustment limit constraint limits the amount of revenue that could be raised.³⁹ When the Port's calculated aggregated revenue requirement is higher than the tariffs adjustment limit revenue, its regulatory models are designed to default depreciation to zero and defer all unrecovered depreciation into the future.

³⁹ Clauses 4.4.1(a) and (b) of the pricing order.

4. Our final views on the degree of non-compliance

We consider that the Port's approach to depreciation is compliant with the pricing order.⁴⁰ We also note that port users are seeking greater understanding of the impact of deferred depreciation on future tariffs. We observe that the Port is beginning to consider future implications of deferred depreciation.⁴¹

Our views in these areas are outlined in Chapters 4, 5, 7, 8, 9, 10, 11 and Appendices 2, 3 and 4.

4.6. Our observations on the Port's regulatory period

Before we discuss our views on the Port's compliance with the pricing order in the rest of this final report, we make a few observations on the Port's choice of a one-year regulatory period for each year of the review period. The Port's length of regulatory period, in our view, impacts its approach to estimating its return on capital and its approach to estimating expenditures and demand forecasts.

The length of the regulatory period is not a matter we need to assess as part of the compliance against the pricing order. However, we have the following observations on the Port's adoption of a one-year regulatory period.

Our view is that if the Port adopted a longer regulatory period in its 2022-23 tariff compliance statement, this would provide more stability in pricing outcomes and support port users' long-term investment decisions. We consider that a regulatory period of longer than one year would be in the long-term interests of customers.

The regulatory period is the period of time over which the Port determines it will apply the pricing principles and cost allocation principles set out in the pricing order.⁴² It is the duration over which the Port's aggregate revenue requirement is forecasted and consequently prescribed service tariffs are set.⁴³ The choice of regulatory period impacts the level of service that port users will receive over the chosen period. It does not currently impact tariffs due to the tariffs adjustment limit.

⁴⁰ However, for a year in which the tariffs adjustment limit would not prevent any amount of depreciation to be recovered, we would face difficulty in assessing compliance or non-compliance because paragraph 4.4.2(a) of the pricing order could then be open to more than one possible interpretation of what is required.

⁴¹ In the Port's 2021-22 tariff compliance statement, the Port is considering adopting a tilted annuity approach to depreciation, which may assist in managing any future price shocks arising from deferring depreciation.

⁴² Clause 13.1.1 of the pricing order. Pricing Principles means the principles and requirements contained in clauses 2, 2.3.1 and 4. Cost Allocation Principles has the meaning set out in clause 5.2.1.

⁴³ Clause 2.1.1 (a) of the pricing order.

4. Our final views on the degree of non-compliance

Our Statement of Regulatory Approach clarifies our expectations of how the Port should explain the basis of its chosen regulatory period length in its tariff compliance statements.⁴⁴

4.7. Port of Melbourne’s regulatory period approach

The Port has consecutively adopted a one-year regulatory period over the review period, as set out in its tariff compliance statements, in re-setting its prescribed services revenue allowance. The Port’s view is that the tariffs adjustment limit provides price certainty and incentives for it to seek cost efficiencies regardless of the length of regulatory period it adopts.⁴⁵

4.8. Our consideration of the Port’s approach and final views

While we acknowledge that the tariffs adjustment limit ensures stability and predictability of prescribed service tariffs during its operation, we encourage the Port to consider a longer regulatory period to promote stability in its rate of return estimate and hence aggregate revenue requirement.⁴⁶ The use of a one-year regulatory period has allowed the Port flexibility to adjust its approach to estimating the rate of return each year, which we consider creates uncertainty for port users (discussed further in Chapter 5 – return on capital).

The use of a one-year regulatory period for an infrastructure asset such as the Port is unusual as we observe the use of five-year regulatory periods within port access regimes in South Australia and Queensland.⁴⁷ Regulatory periods longer than one-year are also used in industries characterised with large infrastructure assets such as in the Victorian water pricing regime and Australia’s electricity and gas pricing regimes.⁴⁸

Whilst capital planning and forecasting over a lengthy period of time poses risks around the accuracy and reliability of forecasts, the benefits include greater incentives to outperform expenditure and demand forecasts. This in turn also provides for a better understanding of the

⁴⁴ Essential Services Commission, Statement of Regulatory Approach – Version 2.0, April 2020, pp. 27-28.

⁴⁵ Port of Melbourne, ‘2020-2021 Tariff Compliance Statement – General Statement’, May 2020, p. 27.

⁴⁶ We observe that the Port has indicated in its 2021-22 tariff compliance statement that it will be considering a longer than one-year regulatory period in future tariff compliance statements.

⁴⁷ Essential Services Commission of South Australia, ‘2017 Ports Access and Pricing Review – Final Report’, September 2017; Queensland Competition Authority, ‘Final decision - DBCT 2019 draft access undertaking’, March 2021, p. 29.

⁴⁸ Essential Services Commission, Melbourne Water Final Decision – 2021 water price review, 16 June 2021, pp. 3-4.

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.

4. Our final views on the degree of non-compliance

level of future price increases, once the tariffs adjustment limit is lifted. It also assists port users in their capital planning and investment decisions as it provides greater certainty.

Therefore, our view is that the Port should consider a regulatory period longer than one year and possibly the conventional five-year regulatory period in its future tariff compliance statements. We consider a longer regulatory period such as a five-year period will be in the best interests of port users and Victorian consumers compared to a one-year period.⁴⁹

4.8.1. Views from port users and other stakeholders

Stakeholder feedback received during the 2021-22 industry update consultation, which occurred in 2020-21, has not indicated a definitive preference on extending the regulatory period.⁵⁰ Some have indicated a need for further information to provide comments whilst others have suggested the Port should observe transparency and consistency, promote stability for investments and consider the flow on-effects on trade and consumers in general when choosing a regulatory period length.⁵¹

Shipping Australia Limited echoes the concerns we have raised and comments that unpredicted changes to the Port's revenue allowance impact contractual arrangements and hence it would like to be consulted on the feasibilities and implications of a longer regulatory period.⁵²

[REDACTED]

⁴⁹ In transitioning to a longer regulatory period, we expect the Port to 1) adopt processes that ensure efficiency and robustness of forecasts, 2) consider how the risks of any forecasting errors would be allocated between itself and port users and 3) consider how to manage the uncertainty of major unforeseen events that may affect its annual revenue requirement.

⁵⁰ Four out of 11 respondents to polling during stakeholder workshops have indicated preference for a longer term while only three have indicated preference for maintaining a one-year regulatory period.

⁵¹ Port of Melbourne, '2021 Stakeholder Engagement – Summary Report', May 2021.

⁵² Shipping Australia Limited, 'SAL submission – Essential Services inquiry into Port of Melbourne's Compliance with the 2021 pricing order', 26 August 2021.

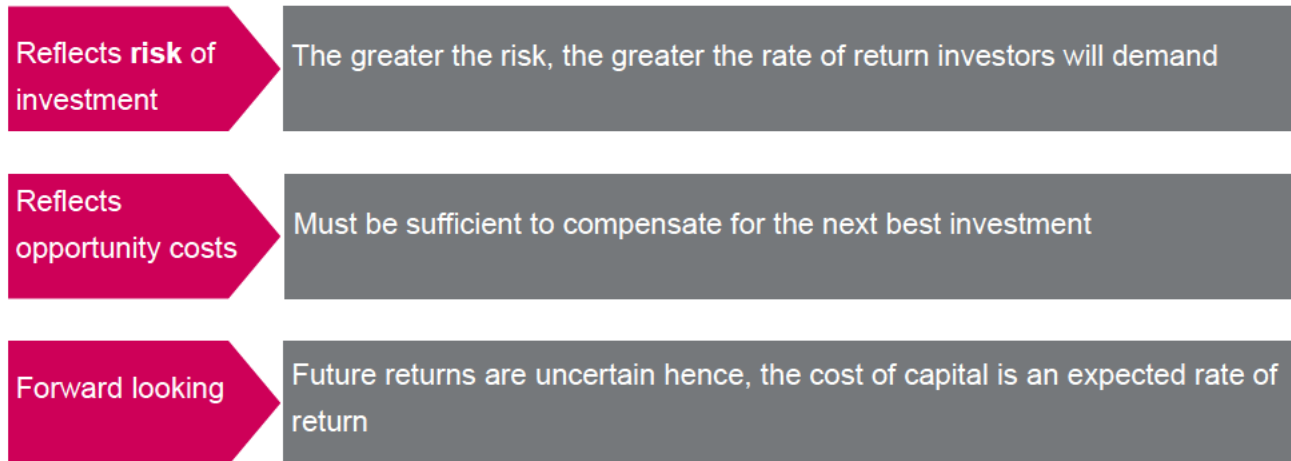
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4. Our final views on the degree of non-compliance

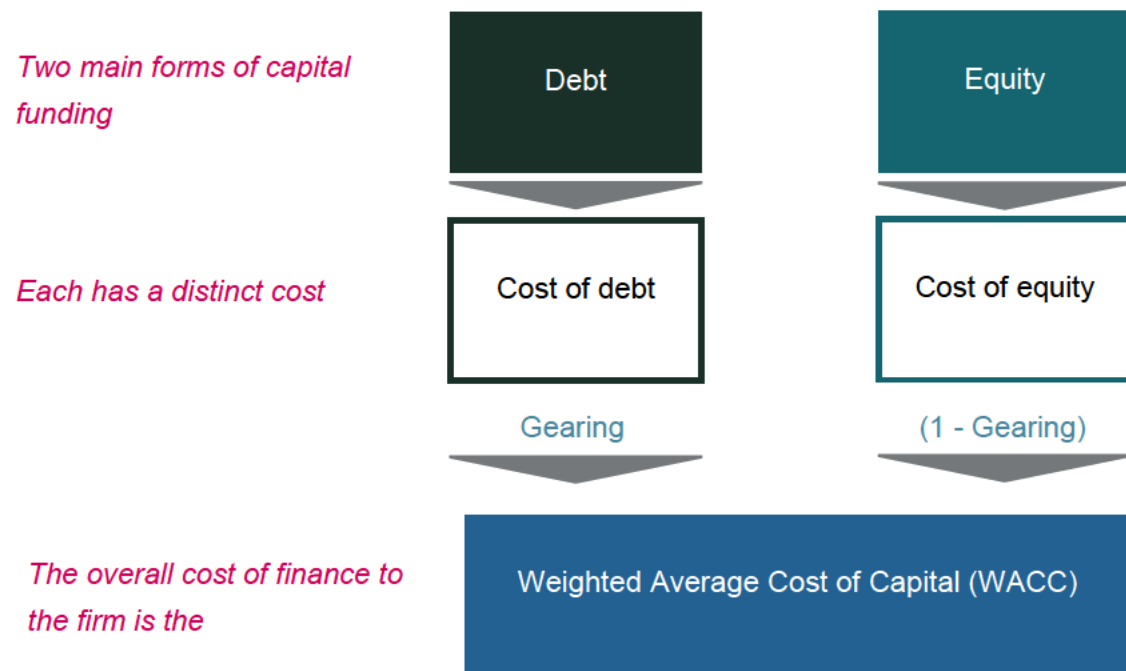
5. Return on capital

5.1. What is the rate of return and why is it important to the Port's future tariffs?

The rate of return on capital can be considered as the minimum expected rate of return necessary to attract capital to an investment. Key characteristics of the rate of return are:

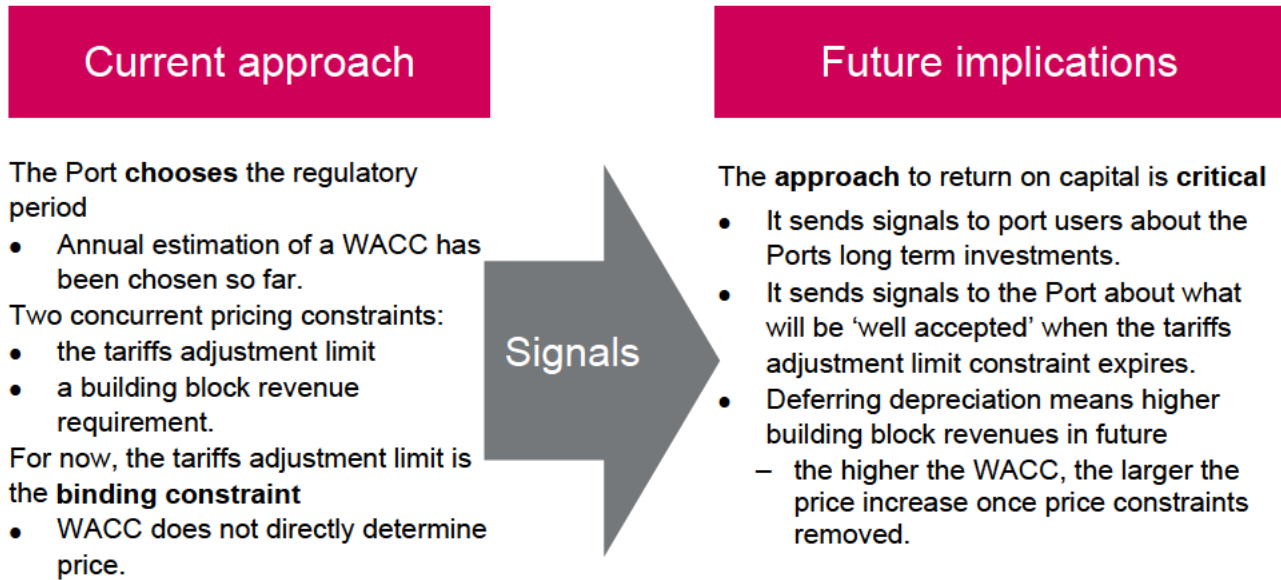


The different forms of capital and their costs can be summarised as



5. Return on capital

5.1.1. The return on capital in the pricing order



The pricing order provides that for the purposes of determining the aggregate revenue requirement, the Port must apply an accrual building block methodology comprising 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'.⁵⁴ In determining this rate of return 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'.⁵⁵

The rate of return is an input to the accrual building block methodology, and accounts for a significant proportion of the Port's aggregate revenue requirement and prescribed service tariffs.

To assess the Port's compliance with this aspect of the pricing order, it is necessary to consider the approach that the Port has adopted to derive the weighted average cost of capital and whether that comprises 'one or a combination of 'well accepted' approaches that distinguish the cost of equity and debt'.⁵⁶

We consider that a 'well accepted' approach' is one that is widely accepted as appropriate for use when determining the WACC for a firm for the purposes of calculating a revenue requirement.

⁵⁴ Clause 4.1.1(a) of the pricing order.

⁵⁵ Clause 4.3.1 of the pricing order.

⁵⁶ Clause 4.3.1 of the pricing order.

A 'well accepted' approach will be 'used' where the application of the approach is faithful to its methodology and the determination of any relevant inputs to that methodology (that is, the implementation of the methodology). That is, the 'use' of a 'well accepted' approach requires adherence to the methodology and principles underpinning the approach, appropriately allowing for any differences that arise from the particular regulated services under consideration (in the case of the Port's, prescribed services).

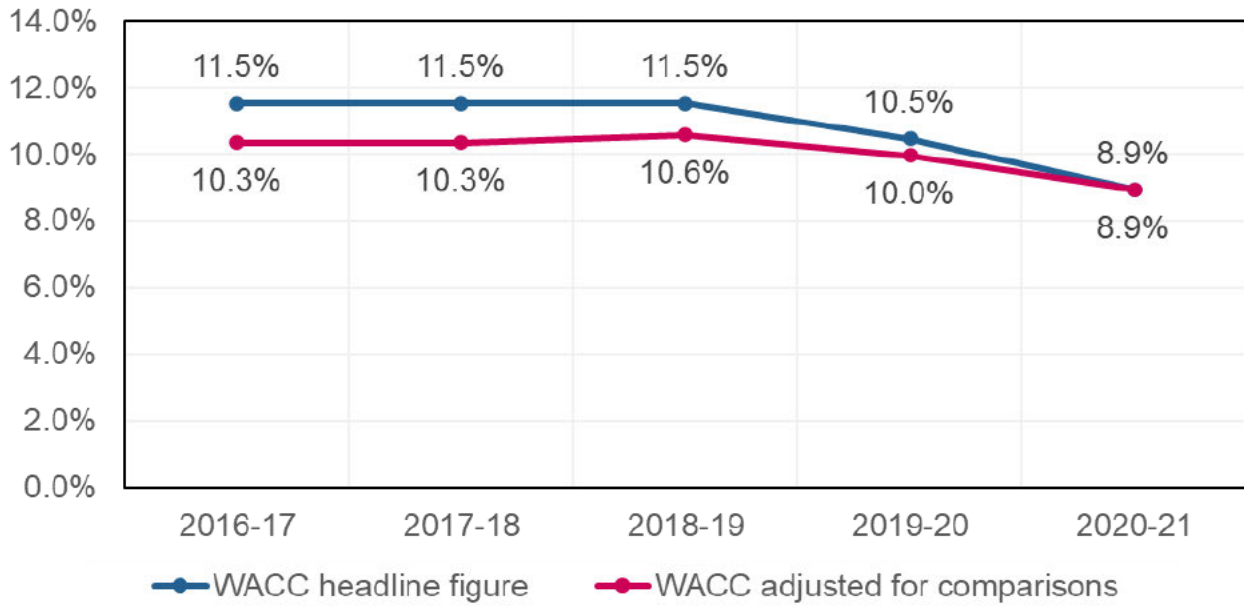
As noted above, a 'well accepted' approach will be one that has received a particular level of acceptance when determining the WACC for a firm for the purposes of calculating a revenue requirement. A 'well accepted' approach will likely comprise several steps or processes to be followed in order to generate an estimate of the relevant parameter. The use of that approach embraces those steps or processes.

A construction of the term 'use one or a combination of 'well accepted' approaches requires the Port to be faithful to the methodology of the approach and that any relevant inputs to that methodology is consistent with the context of the regulatory framework. In this context, a construction of the provisions of the pricing order that facilitates a ready assessment of compliance by the Port, port users, other interested or affected parties, and us, is to be preferred over one that could result in considerable uncertainty as to whether a particular parameter estimate complies with the requirements of the pricing order.

The Port has reduced its WACC estimate over the last four years, 2017–21, and those reductions have addressed some of the preliminary issues we raised in our past interim commentaries. Our view is that the WACC was well above the levels of a benchmark efficient entity over the review period. We note that some of the reduction in the WACC is a consequence of a general fall in the risk-free rate over the same period as opposed to any change or refinement to the Port's approach to estimating the WACC.

Figure 5.1 outlines the extent to which the Port's WACC estimate has fallen over the review period.

Figure 5.1: The Port’s WACC estimates adjusted to reflect the 2020-21 risk-free rate and risk premiums

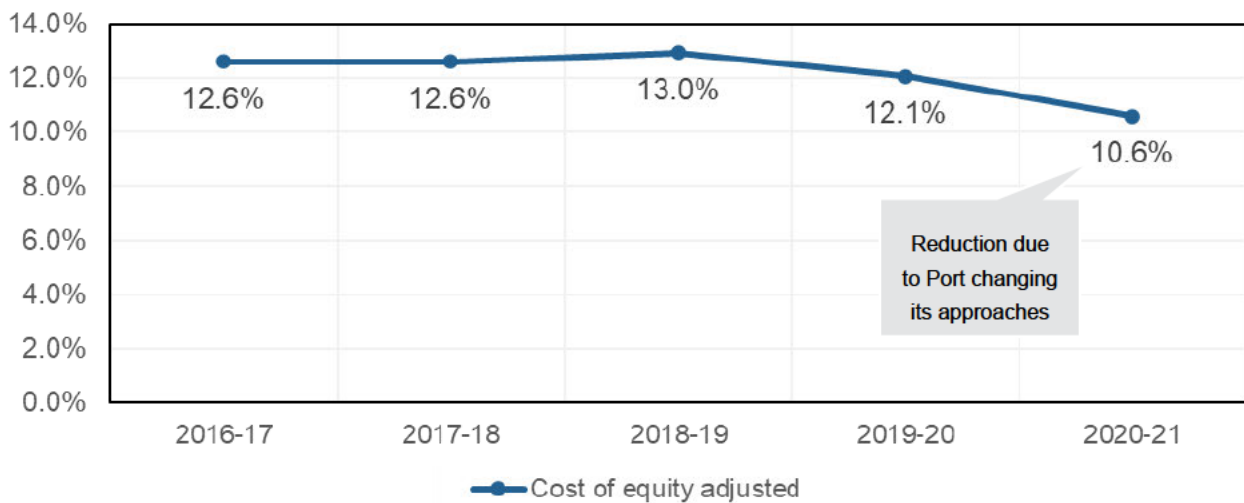


Source: WACC values in each of the Port’s tariff compliance statements adjusted by the commission to reflect the risk-free rate and risk premiums for the period 2020-21.

Our adjustment removes the impact of the decline in the risk-free rate (and the increase in the risk premiums) on the WACC and is therefore a measure of the change to the Port’s WACC as a consequence of the Port’s adjustments to its approach.

Accordingly, the Port’s WACC has reduced by 1.4 per cent since 2016-17. The main driver of this reduction is the fall in the cost of equity. Figure 5.2 outlines the extent to which the cost of equity has declined since 2016-17 when we adjust for the risk-free rate and the risk premiums to reflect the values for the period 2020-21.

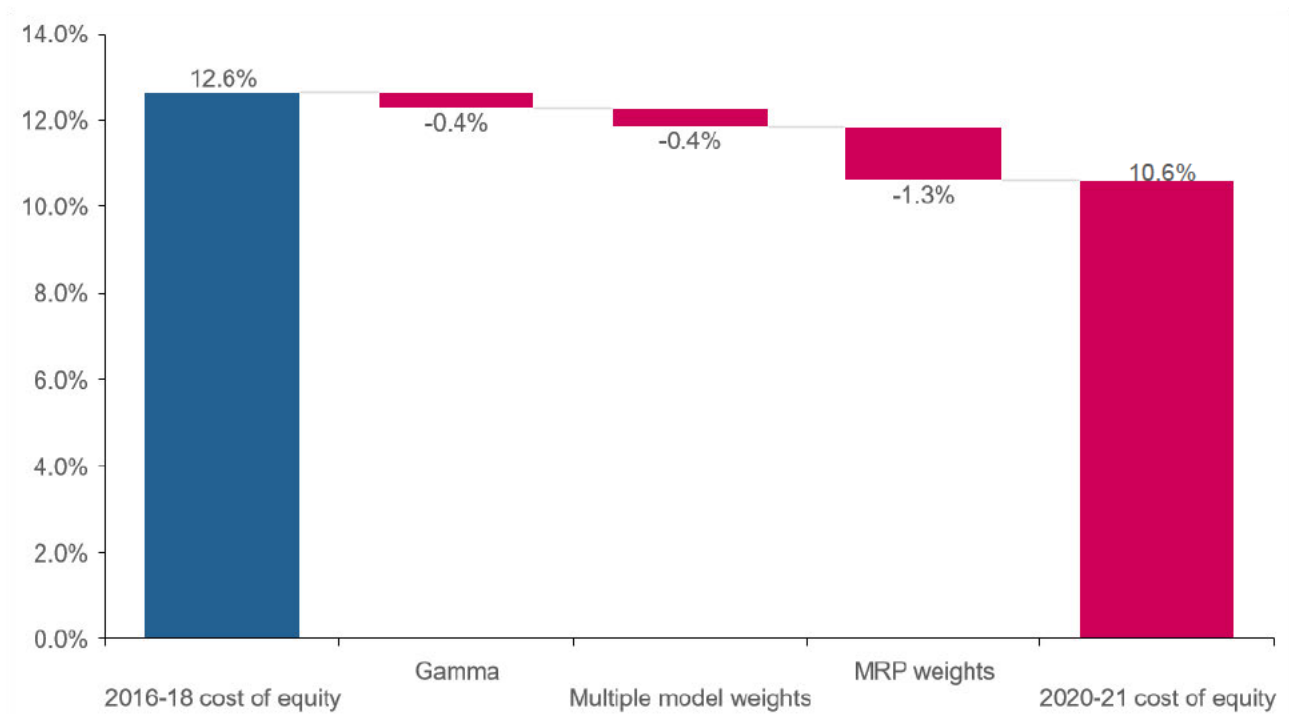
Figure 5.2: The Port's adjusted cost of equity



5.2. The Port's revised estimation approach for gamma, asset beta and market risk premium are driving the decline in the cost of equity

The main drivers of the decline in the cost of equity since 2016-17 are gamma, asset beta and the market risk premium as outlined in Figure 5.3.

Figure 5.3: Key drivers of changes in the Port's cost of equity, 2016–21



5. Return on capital

The decline in the cost of equity is a result of the Port's increase in gamma from 0.25 to 0.33, placing weight on only the Sharpe-Lintner Capital Asset Pricing Model and the Port's increase in the weight on the historical returns model.⁵⁷

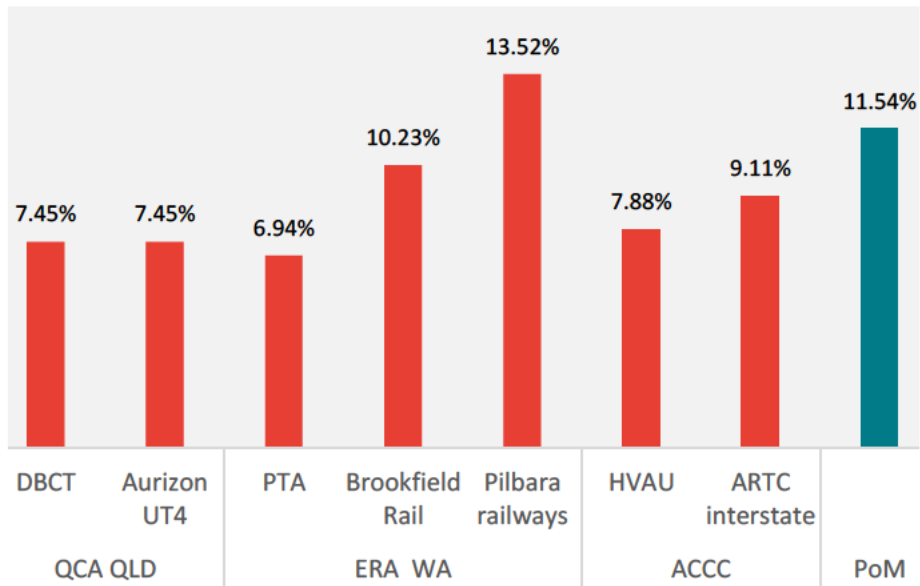
5.3. Over the review period, the Port's WACC is high compared to other regulated businesses

Although the Port's estimated WACC has declined, our analysis indicates it remains at the top end of the WACC range across regulated transport infrastructure assets. Figure 5.4 below compares the Port's WACC in 2017-18 and in 2020-21 with those of other regulated businesses within a similar time period.

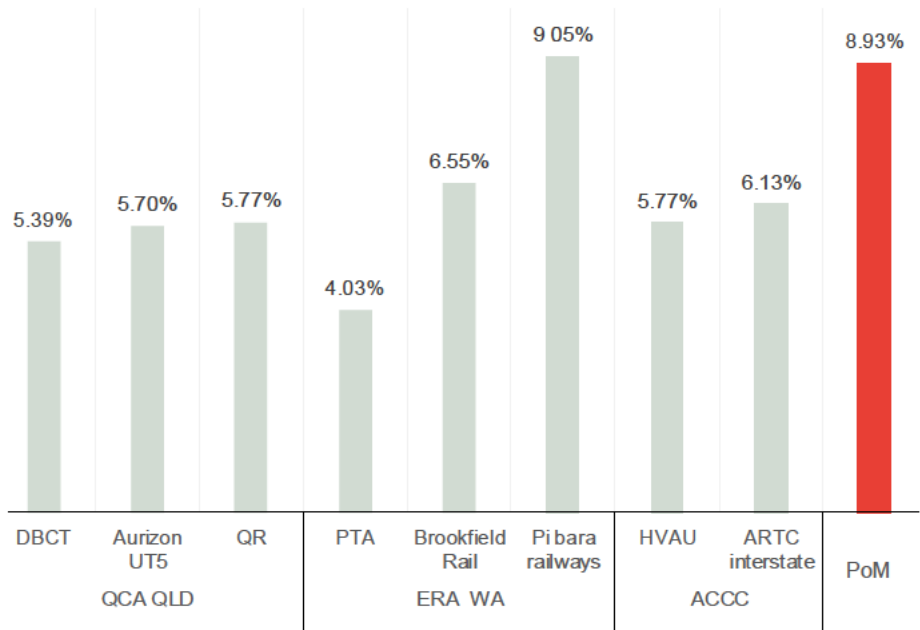
⁵⁷ We note that the Port may use the Fama French Three Factor model in its future WACC estimations. Our view remains that there is no clear evidence of the use of the Fama French model by valuation experts or regulators in Australia, UK or New Zealand. Our views are further detailed on pages 7–13 in our interim commentary on the Port's 2019-20 tariff compliance statement.

Figure 5.4: Comparison of the Port's WACC with regulatory benchmarks in the transport infrastructure sector

2017-18: the Port's WACC is at the top end of the range



2020-21: the Port's WACC remains at the top end the range



Note: DBCT is Dalrymple Bay Coal Terminal, UT4 is Aurizon Network's 2016 Access Undertaking, UT5 is Aurizon Network's 2017 Access Undertaking, Brookfield Rail has changed its name to Arc Infrastructure, PTA is Public Transport Authority, HVAU is Hunter Valley Access Undertaking, ARTC is Australian Rail Track Corporation, and PoM is the Port. Sources: QCA – Queensland Competition Authority; ERAWA – Economic Regulation Authority Western Australia; ACCC – Australian Competition and Consumer Commission and the Port.

5. Return on capital

The WACC cannot be observed, only estimated so judgement is required. Market conditions change over time and so does the WACC. We consider that a combination of ‘well accepted’ approaches should not result in a final point estimate that is outside the range of ‘well accepted’ approaches. That is, higher than any of the ‘well accepted’ approaches applied individually. A WACC outside of this range may indicate that one or more of the approaches has not been appropriately applied and further examination is required.

We also compared the Port’s 2020-21 WACC parameters against those of the other regulated businesses and found the Port’s market risk premium, equity beta and gamma consistently remain within the range that lends itself to higher WACC estimates (see Table 5.1).

Table 5.1: Comparison of Port’s WACC parameters for selected regulated businesses

Entity	IPART	ERAWA	ERAWA	ERAWA	QCA	ACCC	Port
Source	WACC Model - Rail	Public Transport Authority	Arc Infrastructure	Pilbara Railways	Queensland Rail 2020 DAU	Interstate Rail Access Undertaking	TCS 2020-21
Date of publication	Aug-21	Jul-21	Jul-21	Jul-21	Feb-20	Dec-18	May-20
Risk-free rate	2.00%	1.60%	1.60%	1.60%	1.18%	2.78%	0.90%
Market risk premium	7.50%	5.90%	5.90%	5.90%	6.50%	6.00%	7.57%
Equity beta	0.90	0.60	0.90	1.30	0.71	1.20	1.00
Debt risk premium	2.13%	1.06%	1.62%	2.19%	3.63%	1.73%	4.04%
Debt raising costs	0.13%	0.10%	0.10%	0.10%	0.11%	0.10%	0.10%
Gearing	60%	50%	25%	20%	50%	50%	30%
Gamma	0.25	0.50	0.50	0.50	0.484	0.50	0.33
Cost of equity (pre-tax nominal)	11.29%	6.05%	8.13%	10.91%	6.86%	11.74%	10.60%
Cost of debt (pre-tax nominal)	4.25%	2.76%	3.32%	3.89%	4.92%	4.61%	5.04%
WACC (pre-tax nominal)	7.07%	4.41%	6.93%	9.50%	5.89%	8.17%	8.93%
WACC margin ^a	5.07%	2.81%	5.33%	7.90%	4.71%	5.39%	8.03%

Sources: IPART – Independent Pricing and Regulatory Tribunal; ERAWA – Economic Regulation Authority Western Australia; QCA – Queensland Competition Authority; ACCC – Australian Competition and Consumer Commission and the Port’s tariff compliance statement (TCS).

^a ‘WACC margin’ is the WACC value minus the risk-free rate.

5. Return on capital

The pricing order requires the Port to estimate the WACC of a benchmark efficient entity facing similar risk as the Port. We think it is worth comparing the Port's WACC with those of regulated businesses in the transport infrastructure sector. The WACC represents the return investors expect from other investments with similar risks. Otherwise, it is unlikely that the Port would be able to attract the capital it needs as investors would invest elsewhere. A consistently high WACC relative to other regulated entities in the transport infrastructure sector suggests that the Port appears to assess its risk to be substantially higher than the risk of most of these entities.

For example, Table 5.1 outlines that the Port is indicating its WACC is closer to that of the Pilbara Railways than of the other entities. In this connection, our view is that the Port's calculation of its risk may be overstated. We have sought to test this initial view by comparing the Port's estimated WACC of a benchmark efficient entity with a similar degree of risk with our own estimates. This is set out in the following sections.⁵⁸

5.4. Cost of equity

We find that the Port's approach to calculating its cost of equity does not comply with clause 4.3.1 of the pricing order over the review period. We find that the Port's use of the Black Capital Asset Pricing Model and Fama French Model, and its implementation of the Sharpe-Lintner Capital Asset Pricing Model does not reflect one or a combination of 'well accepted' approaches for the purposes of estimating a regulated revenue requirement for a benchmark efficient entity with a similar degree of risk as the Port.

Equity is the amount of capital invested or owned by the owner of the Port. The cost of equity is compensation to the owner of the Port in exchange for owning the asset and taking on the risk of ownership. The cost of equity is a component of the WACC. A number of inputs must be estimated or specified to determine the allowed cost of equity:

- The asset beta measures systematic risk, which is the extent to which returns of an entity are correlated with those of the market as a whole.
- The risk-free rate is the return on a risk-free asset (an asset which has a certain future return and virtually no possibility of loss).
- The market risk premium (MRP) is the premium that investors would require to compensate them for an investment of average risk.

While the asset beta is specific to the firm, the risk-free rate and MRP are effectively market based.

⁵⁸ We sought and considered the advice of CEPA on the Port's approach to estimating its WACC over the review period.

In this chapter, we review the Port's approach to estimating the cost of equity over the review period. We then consider whether the Port's approach to calculate cost of equity for each year of the review period is compliant with the pricing order. Refer to Appendix 2 for further detail on the cost of equity.

5.4.1. Port of Melbourne's approach

Over the review period, the Port applied three approaches to calculate the cost of equity, Sharpe-Lintner Capital Asset Pricing Model (SL CAPM), Black CAPM and Fama French Model (FFM).

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 MRP.

The SL CAPM relies on the existence of a risk-free asset, the returns on which are the risk-free rate. The Black CAPM does not require a risk-free asset, but a zero-beta portfolio. 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. The returns on a zero-beta portfolio replaces the risk-free rate in the standard CAPM formula. The Black CAPM addresses concerns that the standard CAPM does not appropriately reflect - actual observed returns of low beta securities.

In the FFM, in addition to the beta parameter which measures systematic risk, this model of stock market returns includes additional factors to explain expected returns (related to company size and the ratio of accounting to market value).

Implementation

The Port's implementation of the three cost of equity models has largely been the same over the review period 2016 to 2021. The Port calculates the cost of equity estimate for each of the models and then assigns varying weights to these models to derive the overall weighted average cost of equity. This is summarised in Table 5.2.

Table 5.2: The Port's approach to the cost of equity over 2016 to 2021

	2016-17		2017-18		2018-19		2019-20		2020-21	
	<i>Weight</i>	<i>CoE</i>	<i>Weight</i>	<i>CoE</i>	<i>Weight</i>	<i>CoE</i>	<i>Weight</i>	<i>CoE</i>	<i>Weight</i>	<i>CoE</i>
SL CAPM	33%	13.66%	33%	13.66%	33%	13.48%	90%	12.55%	100%	10.60%
Black CAPM*	33%	13.66%	33%	13.66%	33%	13.48%	5%	12.55%	0%	10.60%
FFM	33%	15.12%	33%	15.12%	33%	15.51%	5%	15.37%	0%	11.77%
Cost of equity		14.14%		14.14%		14.16%		12.69%		10.60%

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

Note: *Black CAPM produces the same cost of equity value as SL CAPM when beta is equal to one, as assumed by the Port.

In its first tariff compliance statement (2017-18), which covers the periods 2016-17 and 2017-18, the Port applied an average of all three cost of equity models. The Port continued the approach of equally weighting the three models for the 2018-19 tariff compliance statement.⁵⁹

In the 2019-20 tariff compliance statement, the Port increased the weight placed on the SL CAPM to 90 per cent, while lowering the weight placed on Black CAPM and FFM to five per cent each.⁶⁰

For the 2020-21 tariff compliance statement, the Port increased SL CAPM's weight to 100 per cent, with the Black CAPM and FFM employed as cross-checks. The Port noted that if estimation issues can be rectified, it may consider changing the weightings of the approaches in the future.⁶¹

⁵⁹ Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2018, pp.39-40.

⁶⁰ The Port's consultant Synergies stated that, 'In our view, based on model accuracy alone it may be reasonable to more heavily weight the FFM than the SL CAPM and Black CAPM given its demonstrably greater predictive power in regard to required market returns. However, issues sourcing country-specific FFM factors for all of the countries in the Port's comparator set, as well as the ongoing statistical insignificance of the zero-beta premium in the Black CAPM, have led us to place a lower weighting on these models'. Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2019, p.125.

⁶¹ Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2020, p.16.

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5.4.2. Our consideration of the Port's approach

We found that the Black CAPM and FFM approaches to estimating the cost of equity are not 'well accepted' for the purpose of calculating a revenue requirement for a benchmark efficient entity. We consider only the SL CAPM is a well-accepted approach.

In Australia, there has been a careful assessment of the other models (including Black CAPM and FFM) by regulators, but these models are not used to set the cost of equity for the purpose of pricing for regulated entities. Our review of regulatory precedent that was in force during the review period found eight instances where regulators or appeal tribunals (AER, ERA, IPART, ACAT, QCA) specifically considered and rejected the use of Black CAPM and FFM for determining the overall cost of equity.⁶² In addition, we found no evidence that other Australian regulators (ESCOSA, ICRC, OTTER and ACCC) place any reliance on the Black CAPM or FFM.⁶³

While academics and financial practitioners consider alternative asset pricing approaches including Black CAPM and FFM, these models are not used in the context of estimating the cost of equity for an Australian benchmark efficient entity for the purposes of estimating a regulated revenue requirement.

This is consistent with the views of most Australian regulators on the appropriateness of the Black CAPM and FFM for calculating a revenue requirement in a regulated setting.

Our assessment notes the following observations on Black CAPM and FFM:

- Black CAPM is not currently implemented by any regulator in Australia – it has only been used as a qualitative cross-check of the SL CAPM.

⁶² Refer to Appendix 2 for reasons why Australian regulators have rejected the use of Black CAPM and FFM approach.

⁶³ Australian Energy Regulator, 'Better Regulation - Explanatory Statement: Rate of Return Guideline', December 2013.

Australian Energy Regulator, 'Rate of Return instrument – Explanatory Statement', December 2018.

Economic Regulation Authority, 'Review of the method for estimating the Weighted Average Cost of Capital for the Regulated Railway Networks – Final Decision', September 2015.

Economic Regulation Authority, 'Final Gas Rate of Return Guidelines Explanatory Statement', December 2018.

Economic Regulation Authority, 'Final Determination – 2018 and 2019 Weighted Average Cost of Capital for the Freight and Urban Networks, and the Pilbara Railways', August 2019.

Independent Pricing and Regulatory Tribunal, 'Review of our WACC method', October 2017.

Independent Pricing and Regulatory Tribunal, 'Review of our WACC method', February 2018.

Australian Competition Tribunal, 'Applications by Public Interest Advocacy Centre Ltd and Ausgrid', February 2016, paragraph 735.

Queensland Competition Authority, 'Aurizon Network's 2017 draft access undertaking', December 2018, p.123.

5. Return on capital

- AER's 2018 rate of return instrument stated its confidence in the Black CAPM has 'diminished' due to Black CAPM having empirical issues including instability, sensitivity to the choice of inputs, lack of consensus, and nonsensical and counter-intuitive results.
- The zero-beta premium (a parameter of Black CAPM), which is the difference between the expected return to a zero-beta portfolio and the risk-free rate, is not statistically significant.
- FFM is not used by any regulator in Australia and there is little evidence that it is used by regulators overseas.
- Australian regulators have recognised issues with the SL CAPM but do not use the FFM or the Black CAPM as alternative models.
- FFM is not strongly supported by economic theory.
- FFM estimates are highly sensitive to the way the size and value factors are constructed.⁶⁴ There is no consensus or theoretical guidance on how these factors ought to be constructed.

Our detailed analysis on the above observations is contained in Appendix 2: Return on capital.

Implementation

While we consider the methodology to calculate the cost of equity using SL CAPM to be 'well accepted', we find the Port's implementation of some of the individual SL CAPM parameters are not 'well accepted' over the review period. Our views of the individual parameters of the cost of equity applied to estimate the Port's SL CAPM, such as market risk premium, beta, gamma and gearing, are outlined in the following sections.

Stakeholder submissions

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

⁶⁴ The most common application of the FFM expands on the SL CAPM by including two additional explanatory factors: the value premium and the size premium. The expected value premium is the average return on two value portfolios minus the average return on two growth portfolios. The expected size premium is the average return on three small portfolios minus the average return on three big portfolios. Although Synergies consider that the 2012 Brailsford, Gaunt and O'Brian study has successfully developed an Australian specification of the FFM, we do not consider that this constitutes a 'well accepted' approach to implementing this cost of equity methodology.

[REDACTED]

5. Return on capital

5.4.3. Our view on compliance

Our view is that the Port's methodology and implementation of its approach to calculate cost of equity for the period 2016-17 to 2019-20 are not 'well accepted'. For the regulatory period 2020-21, our assessment indicates that the Port's methodology (100 per cent weight to SL CAPM) is 'well accepted', but its implementation of the approach (individual parameters of SL CAPM) is not 'well accepted' (discussed in the following sections). Our view is that the Port has not complied with clause 4.3.1 of the pricing order over the period 2016 to 2021.

Our estimates of the Port's cost of equity over the review period (2016 to 2021) are outlined in Table 5.3.

Table 5.3: Cost of equity over 2016 to 2021

	2016-17	2017-18	2018-19	2019-20	2020-21
Port of Melbourne	14.14%	14.14%	14.16%	12.69%	10.60%
Commission's findings	8.94% - 11.84%	9.20% - 12.53%	9.12% - 12.02%	7.60% - 9.95%	6.25% - 9.65%

Source: The Port's 2017-18, 2018-19, 2019-20 and 2020-21 tariff compliance statements; CEPA, 'Port of Melbourne five-year review – WACC', September 2021.

5.5. Risk-free rate

We find that the Port has not complied with its obligations under clause 4.2.3 of the pricing order for 2016-17 when calculating its risk-free rate. We find that the Port in 2016-17 had not calculated the risk-free rate applying its 'well-accepted' approach.

We find that the Port has complied with its obligations under clause 4.2.3 of the pricing order for 2017–21 when calculating its risk-free rate. We also find that the Port's approach to estimating its risk-free rate for 2017–21 is a 'well accepted' approach for the purposes of estimating a regulated revenue requirement for a benchmark efficient entity with a similar degree of risk as the Port.

The risk-free rate is an input to the standard CAPM used to estimate the cost of equity and the cost of debt. The standard CAPM states that the return that investors require is the risk-free rate (i.e.,

the required return on a completely riskless asset) plus a risk premium commensurate with the non-diversifiable risk associated with the asset or debt instrument.⁶⁶

5.5.1. The Port's approach

The Port applies a risk-free rate calculated using 10-year Australian Government bond yields averaged over a 20-day period at the end of March.⁶⁷ Bond rates are semi-annual, and the Port converts semi-annual rates into annual effective rates. The Port consistently updated the estimate of the risk-free rate using the same method from years 2017 to 2021. However, it did not calculate its risk-free rate for 2016-17 using its approach.

5.5.2. Our consideration of the Port's approach and our views

Most regulators utilise 10-year Commonwealth Government bonds and an averaging period between 20 to 60 days.⁶⁸ The choice of the risk-free asset as Commonwealth Government bonds is long established and uncontroversial. Only a minority of regulators match the length of the averaging period to the regulatory period or use mixed long and short-term averages.⁶⁹ We consider the methodology of utilising Australian Government bond yields as a proxy for the risk-free rate is a 'well accepted' approach. Moreover, the implementation of short averaging periods close to the commencement of each regulatory period is consistent with Australian regulatory precedent.

We recalculated the Port's risk-free rate using its approach for 2016-17. Our calculation estimates a rate of 2.59 per cent, compared to the Port's estimate of 2.81 per cent. We consider the Port's implementation of its risk-free rate for 2016-17 is non-compliant with the pricing order but is not a material issue.

⁶⁶ Return on equity = Risk-free rate + Market risk premium × Beta

Return on debt = Risk-free rate + Debt Risk premium

That is, the CAPM model suggests that investors will require the return that they could obtain on a risk-free asset plus a premium to compensate them for risk that cannot be diversified away.

⁶⁷ Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2017, p.5.

⁶⁸ [REDACTED]

⁶⁹ Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2021, p. 22; CEPA, 'Port of Melbourne five-year review – WACC', September 2021, p.21.

5. Return on capital

5.6. Market risk premium

Our finding is that the Port's approach to calculating its market risk premium is not compliant with clause 4.3.1 of the pricing order over the review period. We find that the Port has relied on some methodologies that may be considered 'well accepted' but it has combined and implemented them in a way that is not 'well accepted':

- The implementation of the Historical Excess Returns and Wright methods may not be 'well accepted' (due to the choice of data source and the averaging period). This produces higher estimates compared to most regulators.
- The Port's implementation of Independent Pricing and Regulatory Tribunal (IPART) and Economic Regulatory Authority's (ERA) Dividend Discount Model are inconsistent with IPART's and ERA's approaches.
- The Port's choice of weightings places greater emphasis on high market risk premium estimates based on the Wright and DDM methods compared to the approach of most regulators.

We find that over the review period, the Port's approach results in a high market risk premium estimate, which is either significantly above or at least at the upper end of the range of estimates of most regulators. We find that the Port's market risk premium does not reflect that of a benchmark efficient entity with a similar degree of risk as the Port.

To calculate the cost of equity, the CAPM requires an estimate of the market risk premium (MRP). 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. The MRP cannot be observed directly and is usually estimated with reference to the total market return. The total market return measures shareholders' gains from dividends and share prices and can be calculated using stock market data. Australian regulators have used different approaches to estimating the MRP, namely the Historical Excess Returns method, the Wright method and the Dividend Discount Models method.

In this section we review the Port's approach to estimating the MRP over the review period and compare it to adopted regulatory approaches. We then consider whether the regulatory precedent supports the Port's approach, in terms of both the methodology used to estimate the MRP and its implementation.

5.6.1. Port of Melbourne's approach

The Port has relied primarily on three methods to estimate MRP throughout the review period. Specifically, the Port considers a weighted average of the estimates obtained by the following methods:

- Historical excess returns (HER) method. The HER method calculates a MRP estimate by taking the difference between the historical averages of total market return and historical risk-free rate.
- The Wright method, which calculates a MRP estimate by taking the difference between the historical average of total market return and the current risk-free rate.
- Dividend discount models (DDMs) method, which first calculates the total market return as the present value of future dividend payments and then estimates the MRP by taking the difference between the total market return and the current risk-free rate.

Throughout the review period the Port has adopted the HER and Wright method, but has varied its weightings across the methods in response to our interim commentaries.⁷⁰ From 2016-17 to 2018-19 the Port has argued that DDMs were unstable and sensitive to assumptions and hence, only used DDM estimates as cross-checks.⁷¹

From 2019-20, the Port introduced a 25 per cent weighting on DDMs citing that it is 'well accepted' by some Australian regulators, namely IPART, ECA and QCA. In 2020-21, the Port further lowered its weightings on the Wright method and DDMs to 15 per cent each and increased its weighting on HER to 70 per cent.⁷²

Implementation

The Port has outlined the following issues and justification for its estimation of its MRP.

Theta and distribution rate in the MRP calculation

Theta and the distribution rate are two parameters that are relevant to the calculation of gamma and also have an impact on the calculation of MRP. The theta and distribution rate used in the MRP calculation should be consistent with the gamma used for the WACC calculation. Hence, to reflect our view that the Port's approach on gamma was not 'well accepted', the MRP calculations we have adopted reflect a theta and distribution rate consistent with our gamma estimates (gamma is discussed in section 5.10)

⁷⁰ Refer to Appendix 2 on detailed discussion of the views of Australian regulators.

⁷¹ Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.104.

⁷² Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2020, p.3.

Historical excess returns and Wright methods

The Port provided its 2016-17 and 2017-18 MRP estimates in its 2017-18 tariff compliance statement and updated these estimates using the latest stock market data for 2018-19 to 2020-21. Table 5.4 sets out the Port's approach to estimating theta using these methods.

Table 5.4: The Port's implementation of HER and Wright method

Entity	Market data	Period (start)	Averaging	Theta	
2016-18	NERA	1883	Arithmetic	0.35	Point estimate
2018-19	NERA	1883	Arithmetic	0.35	Point estimate
2019-20	NERA	1883	Arithmetic	0.35	Point estimate
2020-21	NERA	1883, 1937, 1958, 1980, 1988	Arithmetic	0.41	Median of the five periods

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

Dividend discount models method

DDMs assume that the value of a security, or the overall stock market, is the present value of its future dividends. The Port's approach to estimating the dividend models over 2019-20 and 2020-21 is outlined in Table 5.5.

Table 5.5: The Port's DDM implementation in 2019-20 and 2020-21

Methodology	2019-20	Weighting	2020-21	Weighting
Damodaran (2013)	8.63%	33.3%	10.90%	
Bank of England (2010)	8.62%	33.3%	10.81%	
Bank of England (2002)			11.42%	
Average of IPART models			11.04%	33.3%
Gordon Constant Growth Model	8.42%	33.3%	11.04%	
ERA two-stage DDM			9.55%	33.3%
QCA Cornell DDM			8.67%	33.3%
Weighted Average MRP	8.56%		9.75%	

Note: ERA is Economic Regulatory Authority and QCA is Queensland Competition Authority.

Source: Appendix N of the Port's respective 2019-20 and 2020-21 tariff compliance statements.

5. Return on capital

5.6.2. Our consideration of the Port's approach

Historical excess return approach method

We find that each of the individual MRP methodologies used by the Port (HER, Wright, and DDMs) have been used by Australian regulators in past decisions. However, unlike the vast majority of Australian regulators, the Port places greater weight on the Wright and DDM methods and consequently understates the impact of the HER method.

Wright method

The Port has justified its reliance on the Wright method on the basis that it is implicit in the way Australian valuation experts have recently estimated the required rate of return. Our expert CEPA found, and we agree, that over the 2013 to 2021 period, independent experts tended to rely on a mixture of historical data, academic literature, and regulatory precedent when setting MRP. We also observed that over that entire period (2013 to 2021), the MRP applied was commonly six per cent with no adjustment for the falling risk-free rate over this period.⁷³

We also reviewed other Australian regulatory decisions for their reliance on the Wright method and found limited support for the methodology over the review period.⁷⁴ Several regulators (AER, ESCOSA, ERA) explicitly rejected the Wright method in their most recent decisions, on the basis of theoretical and/or empirical concerns. The AER, for example, concluded in its 2018 rate of return guideline that it finds 'no strong evidence' in support of the Wright method and that the MRP would not be 'estimable with sufficient precision for use in a regulatory decision' under this method.⁷⁵

For these reasons, we found that the Wright approach is not a 'well accepted' approach.

Dividend discount models method

Prior to 2019-20, the Port did not give any weight to DDMs estimates in its overall MRP estimate but rather, used them as crosschecks.⁷⁶ We note that DDMs have been used by ERA, QCA, IPART and, in early years, AER. The Port acknowledged this in the 2019-20 tariff compliance

⁷³ Refer to Appendix 2 for a detailed outline of our findings.

⁷⁴ See Table 14.1.

⁷⁵ AER, 'Rate of Return instrument – Explanatory Statement', December 2018, p.231.

⁷⁶ Prior to 2019-20, the Port cited the inherent instability of the estimates and disagreements over the terminal growth rate to be used in these models. The DDMs' sensitivity to the specific functional form adopted as well as underlying data assumptions is a well-known limitation of this method, which has contributed to it receiving less weight than HER in Australian regulatory precedent.

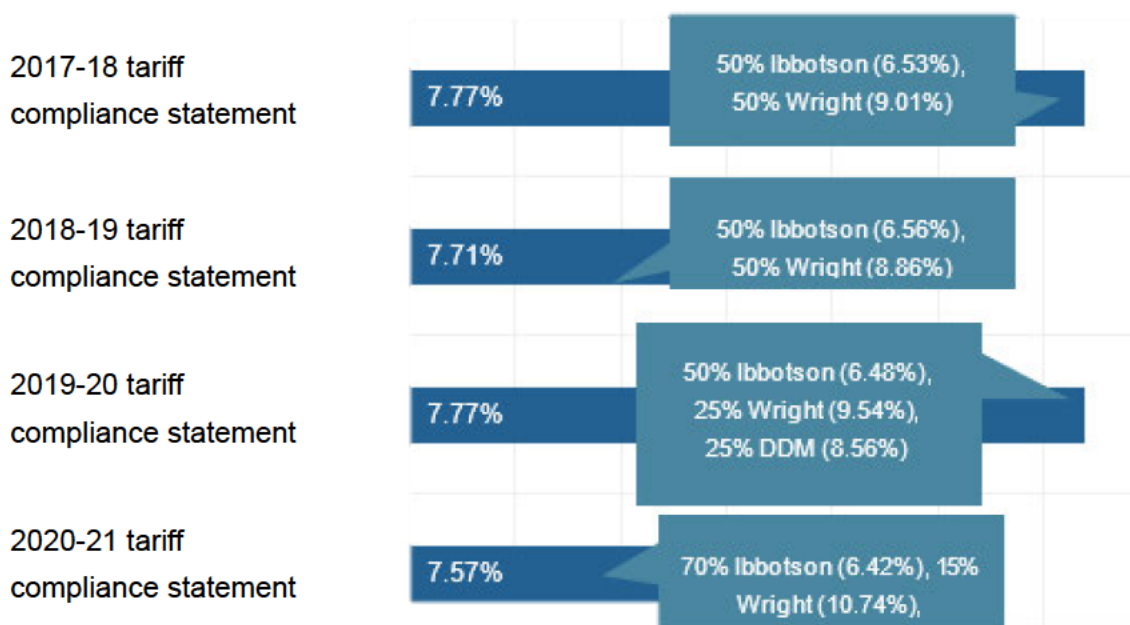
statement when it decided to allocate DDMs a weighting. At that point, the Port also considered that DDMs had the advantage of offering a forward-looking component to its MRP estimate.⁷⁷

For 2019-20 and 2020-21, the Port used several, differently-specified DDMs in order to derive an overall DDM estimate. We note that in the absence of a clear 'best' DDM specification, there is uncertainty over which model specification the Port should adopt. In 2019-20, the Port adopted two of IPART's DDM specifications and the Gordon Constant Growth model.⁷⁸ Therefore in 2020-21, we consider it appropriate that the Port expanded its approach to a wider range of DDMs in order to be as comprehensive and reflective of Australian regulatory precedent as possible. Therefore, the Port's selection of DDMs in 2020-21 appears reasonable to us.

Weighting of the three approaches to estimate the market risk premium

During the review period, the Port has not replicated the approach of any one regulator but has combined its implementation of existing methods in a unique way. We consider that the Port's implementation and combination of these methods is not 'well accepted'.

Figure 5.5: Summary of the Port's weighting of the three methods



Note: TCS refers to the Port's tariff compliance statement.

⁷⁷ Synergies, 'Determining a WACC estimate for Port of Melbourne', May 2019, p.143.

⁷⁸ The Gordon Constant Growth Model is not adopted by any Australian regulators and the Port later removed it in 2020-21.

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In 2016-17, 2017-18 and 2018-19, only two regulators gave weight to the Wright method. The ERA did not apply specific weights to reach its point estimate of MRP but regarded Wright as its preferred method.⁷⁹ The QCA only placed five per cent to 10 per cent weighting on the Wright method.⁸⁰ In general, Australian regulators relied mainly on the HER approach.

In 2019-20, while the Port's 25 per cent weight on DDMs was broadly in line with the weights assigned by Australian regulators, we find that the weight on the Wright method was still overstated. Notably, the QCA placed a 15 per cent weight on Wright and was the only regulator to have regard to this method in estimating MRP. Most Australian regulators continued to rely mainly on HER.

In 2020-21, the QCA was the only regulator to rely on the Wright method, assigning a 15 per cent weighting. Most Australian regulators rely primarily, if not solely, on HER.

Our view is that the HER method is a 'well accepted' approach to estimating MRP based on regulatory precedent. We find limited support for the Wright methodology in Australia over the review period. Several regulators have explicitly rejected the use of the Wright method on empirical and theoretical grounds. We consider that DDMs with the weightings assigned by the Port reflect 'well accepted' approaches.

Implementation

Historical Excess Return method

We compared the Port's implementation of the HER method to Australian regulatory precedent. We found that the Port has:

- Exclusively relied on NERA-adjusted Australian stock market data. This is not 'well accepted' among Australian regulators and leads to a higher MRP.⁸¹
- Relied only on the period starting in 1883 in estimating MRP for 2016-19. At the time, this aspect of the implementation was not 'well accepted' because regulators considered a range, or an average, based on multiple periods. An exception to this was the QCA, who considered only the period starting in 1958. The period starting in 1883 provides the highest MRP estimate when using NERA data.

⁷⁹ ERA, 'Determination on the 2017 Weighted Average Cost of Capital for the Freight and Urban Railway Networks, and for Pilbara railways', October 2017.

⁸⁰ QCA, 'Aurizon Network's 2017 draft access undertaking', December 2017.

⁸¹ See Appendix 2 for detailed reasons on why we consider exclusively relying on the NERA-adjusted stock market data is not a 'well-accepted' approach. 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.

5. Return on capital

- Exclusively relied on arithmetic rather than geometric averages. Arithmetic averaging produces higher estimates. However, we find that this aspect of the implementation is ‘well accepted’.

Our view is that the Port’s implementation of the HER method is not ‘well accepted’ (due to the choice of data source and the averaging period), and that the Port’s implementation produces higher estimates compared to other Australian regulatory approaches.

Wright method

Similar to the HER method, the key area of the Port’s approach that we consider not to be ‘well accepted’ is the sole reliance on NERA data, which would produce higher estimates compared to regulatory approaches that used the Brailsford Handley Maheswaran (BHM) data.⁸²

Dividend discount models method

We found that the Port has not used all five of IPART’s DDMs. IPART’s methodology involves determining an overall DDM-based estimate by taking the median estimate across the five DDMs, whereas the Port takes a simple average of the estimates.

We also found that the Port did not accurately reproduce IPART’s Damodaran and two Bank of England DDM estimates used in IPART’s June 2020 final metropolitan water price reviews. On average, the Port’s estimates were slightly lower (approximately 20 basis points), likely due to the differences in the data sources used in its models compared to IPART.⁸³

We reviewed the Port’s implementation of the ERA’s DDM in 2020-21 by populating the Port’s version of the ERA’s DDM with the inputs used in the 2018 and 2019 rail WACC decision and calculated 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. The Port did not provide a reconciliation of its estimates and the MRP estimate published by the ERA.

Stakeholder submissions

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

⁸² Tim Brailsford, John C. Handley, Krishnan Maheswaran, ‘The historical equity risk premium in Australia: Post-GFC and 128 years of data’, August 2011.

⁸³ The Port used Bloomberg data to obtain the inputs to the DDMs. By contrast, IPART uses data obtained from Refinitiv (formerly Thomson Reuters). The Port and IPART also uses slightly different risk-free rate estimates in 2020-21.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

5.6.3. Our views on compliance

We consider that the Port's methodology and implementation of its approach to calculating the MRP for the review period is not 'well accepted'. Our view is that the Port has not complied with clause 4.3.1 of the pricing order over the review period. The Port has applied some methodologies that are not 'well-accepted' and has not replicated the approach of any one Australian regulator but combined existing methods in a unique way.⁸⁵ This includes:

- An implementation of the HER method that is not 'well accepted' (due to the choice of data source and the averaging period) and produces higher estimates compared to regulatory approaches.
- A choice of weights that places greater emphasis on high MRP estimates based on the Wright and DDM methods compared to most regulators.
- The implementation of the DDM specifications that are not consistent with that of other Australian regulators.⁸⁶

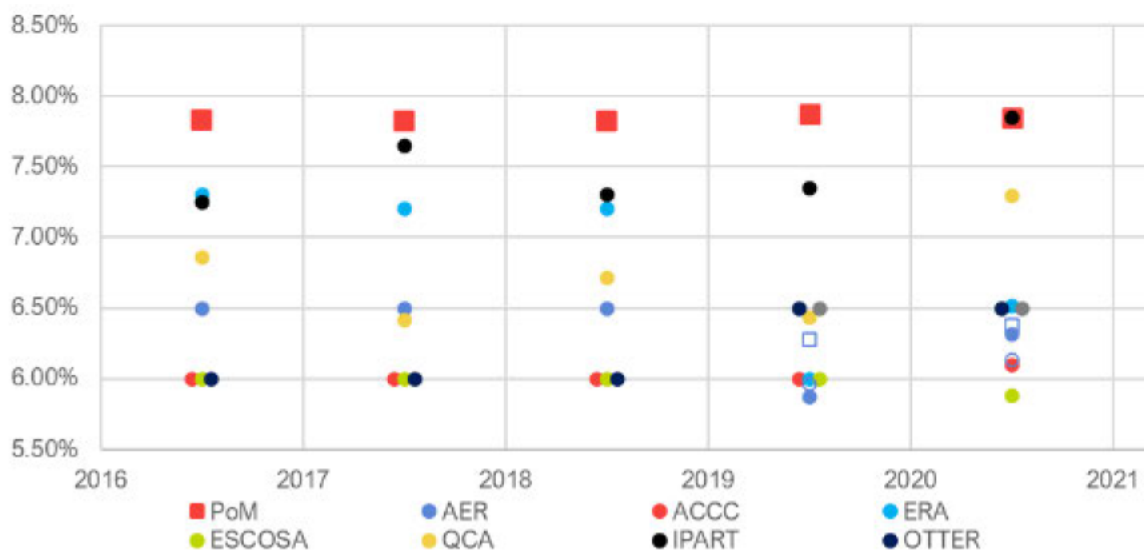
As a result, over the review period, the Port's overall approach results in a high MRP estimate, which is either significantly above or at least at the upper end of the range of estimates based on regulatory approaches. We recognise that the pricing order allows the Port to combine 'well accepted' approaches in a variety of ways using more than one set of weights. In choosing the range of MRP estimates that reflects 'well accepted' approaches and weights that are supported by regulatory precedent, we have identified groups of regulatory approaches that are broadly similar to each other and can be considered 'well accepted'. This is shown in Figure 5.6, which summaries the estimates of MRP based on regulatory approaches in force during each year.

⁸⁴ [REDACTED]

⁸⁵ Refer to our discussion of 'well accepted' earlier in this chapter.

⁸⁶ The Port, in its response to our draft inquiry report, has dismissed these issues as immaterial. We have reviewed the Port's comments and our final view has not changed. We consider that the Port's implementation of the DDM is not consistent with that of other Australian regulators.

Figure 5.6: MRP estimates based on regulatory approaches in force during the review period



Note: PoM refers to the Port of Melbourne.

Our range estimates of ‘well-accepted’ market risk premium are outlined in Table 5.6. Our detailed analysis of the market risk premium is outlined in Appendix 2.

Table 5.6: Market risk premium over 2016 to 2021

	2016-17	2017-18	2018-19	2019-20	2020-21
The Port’s estimate¹	7.77%	7.77%	7.71%	7.77%	7.57%
The Port’s estimate corrected for gamma ²	7.84%	7.82%	7.82%	7.87%	7.84%
‘well accepted’ range for MRP	6.00% - 7.30%	6.00% - 7.65%	6.00% - 7.30%	6.00% - 6.50%	5.88% - 7.30%

¹ Sourced from the Port’s tariff compliance statements from 2017-18 to 2020-21.

² The Port sets out its 2016-17 MRP in its 2017-18 tariff compliance statement and assumed it is equal to the 2017-18 MRP. The Port’s MRP estimates for 2016-17 to 2019-20 assume a theta of 0.35 and a utilisation rate of 0.7, consistent with a gamma of 0.25. The Port’s MRP estimates for 2020-21 assume a theta of 0.41 and a utilisation rate of 0.8, consistent with a gamma of 0.33. These estimates are based on the Port’s approach adjusted for gamma estimates in Table 5.13.

5. Return on capital

5.7. Beta

We find that the Port has not complied with clause 4.1.1(a) and clause 4.3.1 of the pricing order in determining its beta. We find that the Port's method for constructing its comparator sample to calculate its beta reflects a 'well accepted' approach. However, our finding is that its implementation of its method, that is the construction of comparators, and estimation of beta do not reflect 'well accepted' approaches.

We find that the Port's beta is higher than that of a benchmark efficient entity with a similar degree of risk as the Port.

The beta parameter measures systematic risk, which is the extent returns of an entity are correlated with those of the market as a whole. It is an input to the WACC estimation and the SL CAPM. An equity beta includes the effects of debt on returns while an asset beta has these effects removed. An entity with high individual business risk may not have a high beta if its returns are not correlated with the market as a whole.

Since the Port is not listed in an equity market the Port has to construct a benchmark efficient entity, composing of a set of companies that would be considered as investment substitutes and face the same degree of systematic risk as the Port, to estimate its equity beta. The approach to selecting a set of comparators and methods of estimation affect the estimate of beta.

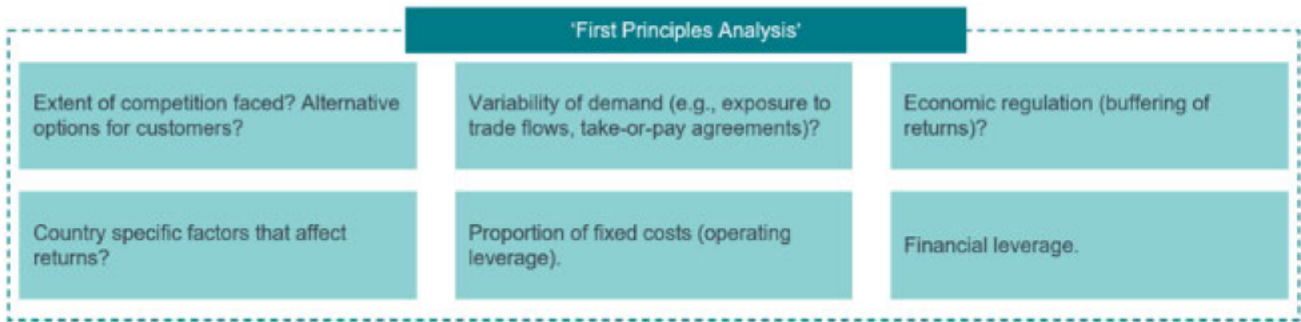
This chapter sets out our views on the Port's approach to estimating its beta.

5.7.1. Port of Melbourne's approach

To construct a list of comparators, the Port used a high-level approach to identify the characteristics of a benchmark efficient entity with a similar degree of risk as the Port.⁸⁷ That is, to establish the relevant characteristics that drive the correction between the return of the Port and the overall market, the Port applied a first principles analysis which considered the following:⁸⁸

⁸⁷ The Port engaged Synergies Economic Consulting to advise on beta estimation for its first four tariff compliance statements and additionally used Incenta Economic Consulting for its 2020-21 tariff compliance statement to cross check its estimate. Both Synergies and Incenta used different approaches to estimating beta, each of which the Port considered to be well-accepted.

⁸⁸ The first principles analysis is a qualitative assessment which analyses the key factors that impact the Port's systematic risk profile to help inform where its equity beta is likely to sit within a range relative to other comparators.



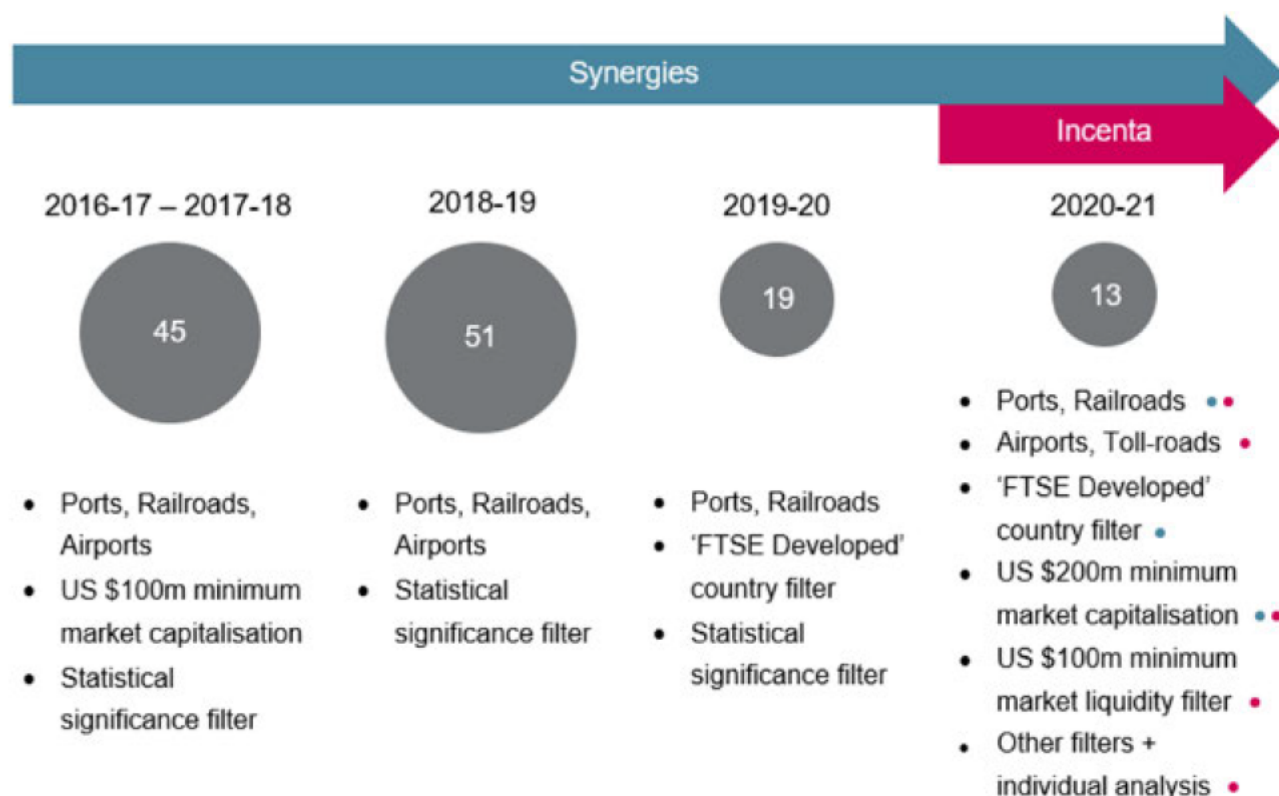
Implementation

The next step was for the Port to select appropriate comparators. The criteria used by the Port to select its comparator set has varied year to year over the review period. We discuss two main aspects of the Port’s approach across the review period – the selection of comparators and its estimation of beta.

Selection of comparators

In identifying a comparator sample, the Port has made several key decisions with regard to the country, industry and the size of the entity. It has consistently relied on the Global Industry Classification Standard (GICS) however, its choice of industry categories to draw comparators from has changed year to year. Figure 5.7 summarises the Port’s approach to selecting comparators over 2016 to 2021.

Figure 5.7: Summary of the evolution of the Port’s approach to comparator selection and sample size from 2016-17 to 2020-21



For its 2020-21 tariff compliance statement, although the Port also sought advice from Incenta to inform its beta estimate as a crosscheck, the Port continued with including only ports and railroads in its comparator sample.⁸⁹

Across its four tariff compliance statements, the Port has drawn on international comparators. The Port has also applied a filter to restrict comparators to the 'Financial Times Stock Exchange (FTSE) Developed' country classification in 2019-20 and 2020-21.⁹⁰ However, there are several comparators from countries outside this classification in the final sample used for the 2017-18 and 2018-19 tariff compliance statements which the Port removed from its sample in response to our feedback.⁹¹

⁸⁹ Incenta Economic Consulting, 'Estimating the Port of Melbourne's equity beta', May 2020, pp. 22-25.

⁹⁰ Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2020, p. 3.

⁹¹ Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2017; Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2018.

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Other filtering processes adopted by the Port have also changed across the review period. The Port applied a minimum market capitalisation⁹² of US \$100 million to filter its initial comparator set in 2016–18 and removed it in 2018-19 in line with views outlined in our commentary on the 2017-18 tariff compliance statement.⁹³ In 2020-21, the Port applied a US \$200 million market capitalisation filter.⁹⁴

Overall, due to the above changes to filtering, the size of the Port's comparator set has varied year to year. The removal of the market capitalisation filter in 2018-19 increased the number of comparators from 45 companies in its 2017-18 sample to 51 companies.⁹⁵ The exclusion of airports in 2019-20 has contributed to a significant reduction in the sample size to 19 comparators. In 2020-21, the re-introduction of a market capitalisation filter has further reduced the comparator set to 13 entities.⁹⁶

Estimation of asset beta

The procedure used by the Port to estimate beta has been consistent across the review period. The Port has made several key estimation decisions including the frequency of returns data used, choice of reference day,⁹⁷ estimation period and estimation technique.

In estimating asset betas for its comparators, the Port has placed most emphasis on monthly returns and used data over the last five-year and 10-year periods. The betas of comparators have been estimated against the relevant domestic or local share market index using an estimation technique named Ordinary Least Squares (OLS).⁹⁸ In 2017-18, 2018-19 and 2019-20 the Port applied further filtering to refine its sample of comparator betas.⁹⁹ However, it discontinued the use

⁹² The market value of all outstanding shares of a publicly traded company.

⁹³ Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2018, p. 3.

⁹⁴ Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2020, p.66; Incenta Economic Consulting, 'Estimating the Port of Melbourne's equity beta', May 2020, p. 23.

One of the Port's advisors, Incenta, has also applied a market liquidity filter, only including entities with a minimum free float of US \$100 million and additionally considered Bloomberg's liquidity measures in refining its sample. Incenta Economic Consulting, 'Estimating the Port of Melbourne's equity beta', May 2020, pp. 24-25.

⁹⁵ Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2018, p. 3.

⁹⁶ Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2020, p. 3.

⁹⁷ Refers to the day of the week used to calculate weekly returns, for example, Monday to Monday or Friday to Friday.

⁹⁸ Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2020, p. 192.

⁹⁹ The Port has applied statistical significance filtering. For further discussion on the application of a statistical significance filter, see Appendix 2.

5. Return on capital

of this filter for the 2020-21 tariff compliance statement.¹⁰⁰ To convert the equity betas of the final comparator sample into asset betas, the Port has adopted the Brealey-Myers formula.¹⁰¹

5.7.2. Our consideration of the Port's approach

The Port's high-level approach to constructing its comparator set has remained unchanged over the review period. We found strong support among Australian regulators for adopting a similar high-level approach to construct a benchmark efficient entity. The procedure used by the Port to estimate asset betas for its comparators is also supported by other Australian regulators.

However, there are a range of implementation issues in relation to both aspects which we do not consider to be 'well accepted'.

Implementation

Selection of comparators

Australian regulators use a broad range of approaches for constructing a comparator sample. This results in some differences in the characteristics of the sample, including:

- inclusion of comparators outside the regulated sector
- reliance on different country classifications
- the number of comparators used for the sample.

We compared Australian regulatory decisions over the review period and found evidence of practice among Australian regulators of using international comparators in their samples.

Our review of regulatory evidence suggests that Australian regulators do not use a unique framework on how countries are selected however, a filter is often applied to limit which countries comparators are drawn from. Some regulators such as QCA have used an explicit filter, for example, limiting the geography of comparators to FTSE Developed and Advanced Emerging countries whereas others such as ERA have taken an approach to only include comparators located in a similarly developed country to Australia.¹⁰² We consider the use of the FTSE

¹⁰⁰ In 2020-21, the Port's estimate of beta was informed by Incenta's advice as a cross check. Incenta used monthly returns data to calculate beta and the Harris-Pringle formula for de-levering.

¹⁰¹ Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2020, p.192.

¹⁰² Queensland Competition Authority, 'Final Report – Gladstone Area Water Board price monitoring 2020-25 – Part A: Overview', May 2020; Economic Regulation Authority, 'Final Determination – 2018 and 2019 Weighted Average Cost of Capital for the Freight and Urban Networks, and the Pilbara Railways', August 2019; Economic Regulation Authority, 'Review of the method for estimating the Weighted Average Cost of Capital for the Regulated Railway Networks - Final Decision', September 2015.

Developed and Advanced Emerging countries filter is an approach ‘well accepted’ by Australian regulators as it captures risks similar to that faced in Australia.¹⁰³

The other key decision regarding the construction of a comparator set is the selection of industry sectors to draw comparators from. The Port has changed its approach to including comparators from industries outside the regulated sector during the review period. In addition to other ports, the Port has included airports in its 2017-18 and 2018-19 comparator sets, and railroads during the entire review period.¹⁰⁴

Our review indicates that despite some examples of other regulators relying on comparators from industries outside the regulated sector, it is not a common approach when sufficient comparators exist within the sector. The Port’s main reason for extending its sample outside the container port sector is a lack of sufficient comparator ports to construct the benchmark efficient entity.¹⁰⁵ However, the use of smaller sample sizes by other Australian regulators over the review period indicates that reliance on out-of-sector comparators for the purpose of increasing the sample size is not a robust justification. For example, in one of its decisions, the AER has stated that:

‘a small set of comparators does not necessarily justify expanding the comparator set just for the sake of increasing sample size. If the additional firms do not carry a similar degree of risk or cannot be appropriately adjusted...then they can inappropriately bias estimates’.¹⁰⁶

We agree with the AER’s view. In addition, there are several examples of Australian regulators forming their benchmark efficient entity with only four or five companies. See Appendix 2 for detailed evidence from the Australian regulatory precedent and our response to the Port’s submission on our draft inquiry report.¹⁰⁷

Another key decision made by the Port in selecting comparators for 2017-18 and 2020-21 is defining a minimum market size for the benchmark efficient entity. Our review of Australian regulators’ approaches over the review period found mixed support for applying a market

¹⁰³ Accordingly, we consider the lack of a country filter in Incenta’s approach to identifying a comparator set in 2020-21, and the resulting concentration of Chinese companies within its sample as not consistent with a well-accepted approach.

¹⁰⁴ In 2020-21, Incenta only included firms that (in Incenta’s view) undertake the core function of a port owner or port owner-operator in its port sample and only referred to the asset beta of its rail, airports and toll roads samples as a cross check. This is more consistent with the approach taken by other regulators. Incenta Economic Consulting, ‘Estimating the Port of Melbourne’s equity beta’, May 2020, p. 4.

¹⁰⁵ Synergies Economic Consulting, ‘Determining a WACC estimate for Port of Melbourne’, May 2018-19, p. 49.

¹⁰⁶ Australian Energy Regulator, ‘Rate of return instrument – Explanatory Statement’, December 2018, p. 96.

¹⁰⁷ Our consultant, CEPA, reviewed the Port’s submission to our draft inquiry report including accompanying reports by Synergies and Incenta on the Port’s approach to estimating beta. As detailed in Appendix 2, our consideration of the Port’s approach to the selection of comparators and beta estimation has not changed.

5. Return on capital

capitalisation filter or liquidity filter to obtain comparators of similar size.¹⁰⁸ We note that while explicit market capitalisation cut-offs are uncommon there is some evidence across recent regulatory decisions that an implicit threshold may exist. Based on this evidence we consider that a market capitalisation filter can be used with the objective of arriving at a better beta estimate for the Prescribed Services.¹⁰⁹

However, the Port's approach to applying such filters has not been consistent over the review period. The Port only included comparators with a minimum market capitalisation of \$US 100 million in its 2017-18 sample. The Port then removed this filter in 2018-19 in response to our interim commentary on the 2017-18 tariff compliance statement and reintroduced a market capitalisation filter with a higher threshold in 2020-21.¹¹⁰

Despite the above changes in the Port's approach, its overall asset beta estimate has remained unchanged across the five years as shown in Table 5.8.

Estimation of Beta

The next step after the selection of an appropriate set of comparators is the estimation of beta.

The Port has made several key decisions with regard to the estimation process, including the frequency of returns data, estimation period, market index, de-levering formula and the estimation technique used. Our review of other Australian regulators' approaches found strong support for majority of the Port's estimation decisions as outlined in Table 5.7.

However, the Port has based its beta estimate on monthly returns data over a five-year and 10-year period each year.¹¹¹ We did not find evidence of Australian regulators exclusively relying on monthly returns data to estimate beta.¹¹² While monthly returns are considered, Australian regulators have relied more significantly on beta estimates derived using weekly returns data in recent decisions. IPART and the ERA currently rely exclusively on weekly data. AER also relies on weekly returns data and appears to use beta estimates based on monthly returns as a robustness check.

¹⁰⁸ Market liquidity describes the ability to trade a firm's securities with ease and at low transaction costs at stable prices.

¹⁰⁹ Refer to Appendix 2 for a detailed discussion.

¹¹⁰ Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2018, p. 3; Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2020, p.66.

¹¹¹ For further discussion on our response to the Port's submission to our draft inquiry report, please refer to Appendix 2.

¹¹² In 2020-21 the Port also considered weekly data over a five-year and 10-year period. The average and median asset betas for the final sample using monthly estimates are 0.76 and 0.77 respectively, while using weekly estimates, both the average and median are 0.74.

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Our analysis suggests that the use of monthly instead of weekly returns for the Port's comparator sample over a five-year or 10-year period produces a higher asset beta estimate each year. A detailed comparison of beta estimates resulting from the use of weekly versus monthly data is presented in Appendix 2.

Table 5.7: Beta estimation procedures in recent Australian regulatory precedent

Regulator	Year	Period	Index selection	Return specification	De-levering formula	Estimation procedure	Special adjustments
AER ¹¹³	2018	Multiple periods	Local	Weekly	Brealey-Myers	OLS	None
AER ¹¹⁴	2016, 2017	Multiple	Local	Weekly (monthly cross check)	Brealey-Myers	OLS (LAD cross check)	None
ACCC ¹¹⁵	2015, 2019	5-year	Local	Weekly and monthly	Brealey-Myers	OLS	None
ERA ¹¹⁶	2019	10-year	Local	Weekly/AD	Brealey-Myers	OLS, LAD, MM, T-S	None
ERA ¹¹⁷	2015, 2018	5-year	Local	Weekly	Brealey-Myers	OLS, LAD, MM and T-S	None
IPART ¹¹⁸	2020	5-year	Local	Weekly/AD	Brealey-Myers	OLS	Vasicek
QCA ¹¹⁹	2020	5-year/10-year	Local	Weekly/AD and four-weekly	Conine	OLS	None
QCA ¹²⁰	2018	10-year/5-year	Local	Weekly and Monthly	Conine	Bloomberg	None
QCA ¹²¹	2016	10-year	Local	Monthly	Conine	Bloomberg	None

Note: 1. AER considers multiple periods but places most weight on the longest available period. 2. Least Absolute Deviations (LAD), Maximum Likelihood Robust (MM) and Theil-Sen (T-S).

¹¹³ Australian Energy Regulator, 'Rate of return instrument – Explanatory Statement', December 2018.

¹¹⁴ Australian Energy Regulator, 'AusNet Services distribution determination 2016 to 2020 – Final Decision: Attachment 3 – Rate of return', May 2016; Australian Energy Regulator, 'ElectraNet transmission determination 2018 to 2023 - Draft Decision: Attachment 3 – Rate of return', October 2017.

¹¹⁵ Australian Competition & Consumer Commission, 'Public inquiry into final access determinations for fixed line services - Final Decision', October 2015; Australian Competition & Consumer Commission, 'Decision on Australian Postal Corporation 2019 price notification', December 2019.

¹¹⁶ Economic Regulation Authority, 'Final Determination – 2018 and 2019 Weighted Average Cost of Capital for the Freight and Urban Networks, and the Pilbara Railways', August 2019.

¹¹⁷ Economic Regulation Authority, 'Review of the method for estimating the Weighted Average Cost of Capital for the Regulated Railway Networks - Final Decision', September 2015; Economic Regulation Authority, 'Final Gas Rate of Return Guidelines Explanatory Statement', December 2018.

5. Return on capital

Stakeholder submissions

[REDACTED]

Butler Freight Services has noted that the Port's rate of return over the past five years is adequate for the level of risk it has undertaken. It has not provided further explanation or specific comments on beta.

5.7.3. Our views on compliance

Our final view is that the Port's high-level approach to the construction of its comparator sample is 'well accepted'. However, we consider that some elements of the Port's implementation approach are not 'well accepted', such as:

- inclusion of comparators from outside the ports sector (such as railroads and airports) as a direct comparator in all or some years, rather than for cross checking purposes only
- not applying a country filter in 2017-18 and 2018-19¹²³
- the focus on monthly betas rather than weekly betas.

We consider that the Port has not complied with its obligations under clause 4.1.1(a) and clause 4.3.1 of the pricing order. Our estimates of the Port's beta over the review period are provided in Table 5.8.

¹¹⁸ Independent Pricing and Regulatory Tribunal, 'Estimating Equity Beta for the Weighted Average Cost of Capital', August 2020.

¹¹⁹ Queensland Competition Authority, 'Final Report – Gladstone Area Water Board price monitoring 2020-25 – Part A: Overview', May 2020.

¹²⁰ Queensland Competition Authority, 'Aurizon Network's 2017 draft access undertaking', December 2018.

¹²¹ Queensland Competition Authority, 'Final Decision – DBCT Management's 2015 draft access undertaking', November 2016.

¹²³ Up until 2019-20, the Port has selected the comparators from OECD countries and non-OECD countries. However, since 2019-20 the Port has limited its sample to FTSE developed and Advanced Emerging economies.

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Despite the fact that the Port's beta estimate (0.7) is within our estimated range for the entire review period (see Table 5.8), we consider that the Port has not used a well-accepted approach to estimate beta range. We consider that if the Port has adopted a well-accepted approach in its estimation of beta, its points estimate would have matched with our estimation of the Port's systematic risk.

Our detailed review on beta is set out in Appendix 2.

Table 5.8: Comparison of beta estimates over 2016-17 to 2020-21

	2016-17	2017-18	2018-19	2019-20	2020-21
Port of Melbourne					
Asset beta ¹²⁴	0.70-0.75	0.70-0.75	0.70-0.75	0.70-0.75	0.70-0.75
Equity beta	1.0	1.0	1.0	1.0	1.0
Commission's findings					
Asset beta	0.65-0.70	0.65-0.70	0.65-0.70	0.60-0.70	0.60-0.70
Equity beta	0.81-1.0	0.81-1.0	0.81-1.0	0.75-1.0	0.75-1.0

5.8. Gearing

Our finding is that the Port has not complied with clause 4.1.1(a) and clause 4.3.1 of the pricing order when calculating its gearing levels. We consider that the Port's use of acquisition gearing levels is not used by Australian regulators as evidence of the gearing level for a benchmark efficient entity, and results in a higher gearing level, and cost of capital, and hence higher aggregate revenue requirement.

The pricing order requires that the cost of equity and debt are distinguished and used to derive the WACC.¹²⁵ Implicitly, the pricing order also requires that gearing, which is the weighting of debt in the WACC, relate to the gearing of the benchmark efficient entity.

Regulators set the allowed rate of return using a benchmark level of gearing, rather than the actual gearing of a regulated business, to not incentivise regulated businesses to gear up imprudently to dangerous levels (i.e., where the risk of default is unacceptably high and/or a regulated business'

¹²⁴ Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2017, May 2018, May 2019, May 2020.

The Port's point estimate for its asset beta for each year of the review period is 0.70.

¹²⁵ Clause 4.3.1 of the pricing order.

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cost of debt increases above an efficient level). The regulated business is free to depart from benchmark gearing, but consumers should not pay for the consequences of the asset owner doing so.

Gearing has the following impacts on the WACC estimate:

- Direct and negative impact through the weighting on debt and equity because, as gearing increases, the weighting on lower cost debt increases.
- Indirect and positive impact through the asset beta because higher gearing increases risk and expected return.

In the WACC formula used by Australian regulators and by the Port, the positive effect dominates. Therefore, the net impact of higher gearing is to increase the cost of capital.

5.8.1. The Port of Melbourne's approach

The Port has proposed a gearing level of 0.3 over the review period. Table 5.9 summarises the Port's reasons for its gearing level.

The Port has estimated its gearing level using the ratio of long-term debt to market value of equity. To estimate gearing for the benchmark efficient entity, the Port took the midpoint of the median gearing for investment-grade comparators and the average acquisition gearing of Australian port privatisations in its sample.

Table 5.9: Summary of the Port's evidence on gearing in its tariff compliance statements

TCS year	Gearing	Port's reasons
2016-17, 2017-18 ¹²⁶	0.3	Midpoint (to five decimal places) of median gearing for 17 investment-grade comparators (0.22) and average acquisition gearing of Australian port privatisations (0.42). The comparator set used for this includes five ports, seven railroads and five airports.
2018-19 ¹²⁷	0.3	Maintained same approach as 2017-18 and updated numbers.
2019-20 ¹²⁸	0.3	Midpoint of median gearing for 10 investment-grade comparators (0.2) and average acquisition gearing of Australian port privatisations (0.42). The comparator set used for this includes three ports, six North American Class 1 railroads and one Australian railroad.
2020-21 ^{129, 130}	0.3	Midpoint of median gearing for 9 investment-grade comparators (0.2) and average acquisition gearing of Australian port privatisations (0.42). The comparator set used for this includes three ports and six North American Class 1 railroads.

Note: TCS refers to tariff compliance statement

5.8.2. Our consideration of the Port's approach

Consistent with our approach to assessing beta, we reviewed the Port's overall methodology and implementation approach to estimating its gearing level. Our review indicates that Australian regulatory precedent provides strong support for using the observed gearing of an appropriate comparator sample to set benchmark gearing. This is consistent with the Port's methodology to estimate gearing.

Implementation

The Port has applied a consistent definition of gearing for both the estimation of asset beta from equity beta as well as for the capital structure in the WACC formula. The Port has used the ratio of

¹²⁶ Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2017, p.39.

¹²⁷ Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2018, p.3.

¹²⁸ Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2019, p.3.

¹²⁹ Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2020, p.3.

¹³⁰ In 2020-21 the Port was advised by Incenta to inform its gearing estimate. Incenta's gearing estimate is 25 per cent/22 per cent. Both the five-year and 10-year average gearing of the comparator set was 22 per cent. Medians were 19 per cent and 23 per cent respectively. However ultimately the Port has adopted Synergies estimate of gearing in its WACC calculation.

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long-term debt to market value of equity to calculate gearing during the review period. The use of different measures of debt can result in varied gearing estimates.

Our consultant CEPA reviewed Australian regulators and financial practitioners approaches and we accepted its findings. CEPA found no evidence supporting for the Port’s approach of using long-term debt to inform gearing or use of data on acquisitions to inform benchmark gearing.

5.8.3. Our findings on compliance

We found that the Port is non-compliant with clause 4.1.1(a) and clause 4.3.1 of the pricing order as we do not consider the Port’s approach to be ‘well accepted’ for the entire review period. In particular, the use of acquisition gearing levels is not used by Australian regulators as evidence of the gearing level for a benchmark efficient entity. We find support for gearing levels of between 0.20 to 0.30 in the 2017-18 tariff compliance statement year and 0.20 and 0.25 per cent in each subsequent regulatory periods, based on a comparator sample approach which is ‘well accepted’. Refer to Table 5.10, which shows the difference between our estimate and the Port’s estimate.

Table 5.10: Gearing over 2016 to 2021

	2016-17	2017-18	2018-19	2019-20	2020-21
Port of Melbourne	0.30	0.30	0.30	0.30	0.30
Commission’s findings	0.20-0.30	0.20-0.30	0.20-0.25	0.20-0.25	0.20-0.25

5.9. Cost of debt and notional credit rating

Our finding is that the Port’s approach to estimating its cost of debt, which comprises its debt risk premium and debt raising costs, and its notional credit rating reflect ‘well accepted’ approaches and is compliant with clause 4.3.1 of the pricing order.

In estimating the appropriate cost of debt for an efficient benchmark entity (the cost of debt), the Port must estimate the debt risk premium for an efficient benchmark entity (debt risk premium) and debt raising costs for an efficient benchmark entity (debt raising cost). The cost of debt is the sum of the risk-free rate, debt risk premium and debt raising costs.

5.9.1. The Port of Melbourne’s approach

The Port applied a BBB target credit rating and a 10-year term to maturity over the review period. Estimation of the debt risk premium thus requires that data is collected to estimate the yield of a

corporate bond of the target BBB credit rating with a 10-year term to maturity.¹³¹ The Port makes any necessary adjustments to set term to maturity to 10 years, set the appropriate credit rating and decide on the appropriate averaging procedure. The Port used an ‘on the day’ approach in 2017-18 and is transitioning to the trailing average approach.¹³²

The Port used debt raising costs of 0.1 per cent.

5.9.2. Our consideration of the Port’s approach and view on compliance

We consider the Port’s approach to estimating its cost of debt to reflect ‘well-accepted’ approaches and is compliant with clause 4.3.1 of the pricing order. We consider the Port is compliant because:

- Its approach to estimating debt risk premiums and proposed 10-year term to maturity is uncontentious within the context of Australian regulatory practice.
- Australian regulators use data from independent third parties such as Bloomberg or the Reserve Bank of Australia.
- The combination of an ‘on-the-day’ approach with a trailing average approach and transition period, and its approach to estimating debt raising costs, have been used in several Australian regulatory decisions.

5.10. Gamma

Our finding is that the Port’s approach to estimating gamma is not ‘well accepted’. We found parts of the Port’s approach are ‘well accepted’:

- Only the utilisation approach based on an equity ownership methodology for calculating theta is consistent with ‘well accepted’ approaches.
- The Port’s reliance on market valuation estimates is not ‘well accepted’.
- The zero-gamma approach is not ‘well accepted’ by financial practitioners or academics for the purpose of calculating a revenue requirement for a benchmark efficient entity.
- Combining a utilisation approach estimate with a zero-gamma estimate is not ‘well accepted’ by regulators or financial practitioners. While other regulators have considered

¹³¹ The Port takes an average of relevant yields using data from Bloomberg and the Reserve Bank of Australia (with data from either source being weighted equally).

¹³² That is, 70 per cent of the debt risk premium in 2020 is from the 20-day averaging period in 2017, 10 per cent on 2018, 10 per cent on 2019 and 10 per cent on 2020.

financial practitioners' views, no regulator has placed weight on these views in estimating a gamma to set revenues or prices.

The aggregate revenue requirement provides for an allowance for taxation that reflects a benchmark tax allowance. Setting a benchmark tax allowance is consistent with the concept of the benchmark efficient entity. The pre-tax WACC formula assumes company profits are taxed twice (once through tax and then again through the personal income taxes paid by equity investors). To avoid double taxation of the same income stream, the government introduced a dividend imputation tax system. Under this system, when a business pays a dividend out of income that has been taxed in Australia, it will attach dividend imputation tax credits, which can be used by investors to reduce their personal tax obligations.

Gamma measures the value of imputation credits to equity investors to enable shareholders to offset tax liabilities. The Port must calculate the rate of return on a pre-tax, nominal basis.¹³³ Therefore, an adjustment to the WACC for imputation credits is required.¹³⁴

Gamma cannot be observed directly, which means that it must be estimated by some means. It is estimated as the product of the proportion of tax paid that has been distributed to shareholders as credits (the distribution rate) and the value the marginal investor places on \$1 of those distributed credits (known as theta). In order to estimate gamma, it is necessary to estimate the distribution rate and theta individually.

5.10.1. Port of Melbourne's approach

The Port's gamma estimate is based on a weighted average of values from three different approaches:

- The 'non-market' utilisation approach, where theta is calculated using the equity ownership approach. The equity ownership approach reflects the proportion of domestic and foreign ownership of Australian equity, based on Australian Bureau of Statistics (ABS) data.
- A 'market' utilisation approach, where market valuation studies are used to calculate theta.
- Finance theory and market evidence, which yields a zero value for gamma.

¹³³ Clause 4.3.2 of the pricing order.

¹³⁴ Appendix 2 sets out the pre-tax WACC formula and the adjustment by gamma.

Implementation

Over the review period, 2016 to 2021, the Port has adopted a weighted combination of approaches to estimate gamma for the purpose of deriving the pre-tax WACC. In the 2016-17, 2017-18, 2018-19 and 2019-20 tariff compliance statements, the Port proposed an equal one-third weighting of:

- The utilisation approach based on Australian regulatory decisions.
- The utilisation approach, using market valuation studies such as dividend drop-off studies, predominantly based on IPART's regulatory decisions.
- A zero-gamma value, based on approaches used by academics and financial practitioners.

For 2020-21, the Port updated its approach to apply a two-thirds weight to equity ownership estimates and a one-third weight a zero-gamma value.¹³⁵ Although the Port continues to consider that market valuation studies have merit, this approach was removed from its 2020-21 tariff compliance statement estimate as it is currently given material weight by only one regulator.

The Port's gamma estimate over the review period is outlined in Table 5.11.

Table 5.11 The Port's gamma during the review period

	2016-17 to 2018-19		2019-20		2020-21	
	<i>Weight</i>	Gamma	<i>Weight</i>	Gamma	<i>Weight</i>	Gamma
Utilisation approach						
Equity ownership	33.3%	0.45	33.3%	0.5	66.7%	0.5
Market valuation	33.3%	0.25	33.3%	0.25	-	-
Finance/academia	33.3%	0.00	33.3%	0.00	33.3%	0.00
Port's proposed gamma		0.25		0.25		0.33

Source: Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne' for Port of Melbourne, tariff compliance statements 2016–20. Note that in the 2017-18 tariff compliance statement, the Port assumed the same gamma value for 2016-17 as in 2017-18.

¹³⁵ The Port's one-third weighting on a zero-gamma value sets its overall methodology apart from regulatory precedent. Before 2020-21, the Port cited academic publications that argued that the marginal investor affects asset prices in support of the zero-gamma approach. This was consistent with their view that the 'marginal investor' is not an Australian taxpayer and cannot realise any value from the imputation credits that are distributed to them. In the 2020-21 tariff compliance statement, the Port instead relies on evidence that suggests financial practitioners do not typically apply a gamma adjustment to discount rates in valuation reports.

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5.10.2. Our consideration of the Port's approach

Our view is that the Port's approach to estimating gamma is:

- Inconsistent with regulatory precedent.
- Inconsistent with financial practitioners' approaches.
- On the combination of financial practitioners' approaches and regulatory precedent:
 - We are not aware of financial practitioners' placing weight on regulatory precedent.
 - The majority of financial practitioners do set a gamma of zero, however the majority also accept that there is a value to Australian investors from imputation credits.¹³⁶

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

We provide more detail on why we do not consider the Port's approach to estimating its gamma is not a 'well-accepted' approach in Appendix 2.

We reviewed the use of the three approaches by regulators over the review period and found the majority used the utilisation approach based on the equity ownership calculation.

Table 5.12 summarises the regulatory precedence over the review period. 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. It is evident that, outside of IPART, most economic regulators estimate a gamma value between 0.4-0.585.

Table 5.12 Regulatory precedent – gamma

Methodology	Regulator	Gamma range
2017-18 tariff compliance statement		
Majority reliance on equity ownership with limited consideration of ATO statistics and implied market value, mixed utilisation approach	AER (2016), ACCC (2015), ERA (2015), QCA (2016)	0.4-0.47

¹³⁶ This means that Australian investors are willing to accept a lower return for the same systematic risk than if there was no imputation credits system. It is also not clear from recent research whether financial practitioners account for the value of imputation credits in other ways (for example through cash flows).

Implied market value, utilisation approach	IPART (2013)	0.25
Weighing of decisions of other regulators	ESCOSA (2015) ¹³⁷	0.5
2018-19 tariff compliance statement		
Majority reliance on equity ownership with limited consideration of ATO statistics and implied market value, mixed utilisation approach	AER (2017), ACCC (2017), ERA (2017), QCA (2016)	0.4-0.47
Implied market value, utilisation approach	IPART (2013)	0.25
Weighing of decisions of other regulators	ESCOSA (2015)	0.5
2019-20 tariff compliance statement		
Equity ownership, utilisation approach	AER (2018), ERA (2018), QCA (2018)	0.484-0.585
Majority reliance on equity ownership with limited consideration of ATO statistics and implied market value, mixed utilisation approach	ACCC (2017)	0.4
Implied market value, utilisation approach	IPART (2018)	0.25
Weighing of decisions of other regulators	ICRC (2018), OTTER (2018) – both used AER (2017) precedent	0.4
2020-21 tariff compliance statement		
Equity ownership, utilisation approach	AER (2018), ACCC (2019), ERA (2019), QCA (2020)	0.484-0.585

¹³⁷ 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.

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Implied market value, utilisation approach	IPART (2018)	0.25
Weighing of decisions of other regulators	ICRC (2018), OTTER (2018) – both used AER (2017) precedent	0.4

Our review of the market valuation approach

We looked at regulatory views on market valuation approaches and found that Australian regulators, including the AER,¹³⁸ ERA,¹³⁹ and QCA,¹⁴⁰ generally place less weight on market valuation approaches due to concerns regarding econometric techniques and the validity of assumptions used. The dividend drop-off studies,¹⁴¹ that are used in the market valuation approach, face challenges in isolating the effect of market factors such as price variation caused by dividend distributions. They also appear to be highly sensitive to the data used and their estimates tend to have high standard errors. Moreover, there is disagreement regarding the appropriate interpretation of regression coefficients derived from market valuation studies. Therefore, we do not consider that the Port's use of dividend drop-off studies can be considered a well-accepted approach to determining gamma for a benchmark efficient entity.

The Port's zero gamma approach

Our review of the Port's academic evidence

The Port contends 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.¹⁴² The Port further proposes that the marginal investor is very likely to be a non-Australian taxpayer. The Port cites academic studies that find little evidence that imputation credits affect asset prices. It also notes that foreign equity accounts for just under half of the total

¹³⁸ Australian Energy Regulator, 'Better Regulation - Explanatory Statement: Rate of Return Guideline', December 2013, pp.167-175.

¹³⁹ ERA, '2013 Rate of Return Guidelines', 2015, p.180.

¹⁴⁰ QCA, 'DBCT Management's 2015 draft access undertaking, Draft decision', April 2016, p.109.

¹⁴¹ A dividend drop-off study is an econometric technique that estimates the value of distributed imputation credits (theta) by observing the change in stock prices around ex-dividend events (days when the dividend and imputation credit separate from the share).

¹⁴² Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2017, pp.85-95. Synergies Economic Consulting, 'Determining a WACC estimate for Port of Melbourne', May 2020, p.230.

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equity holdings in major Australian transport and energy infrastructure. Overall, the Port considers this consistent with the view that the marginal investor does not value imputation credits.

We reviewed the literature evidence put forward by the Port to show that imputations credits do not affect asset prices and found that the Port excludes several studies that find non-zero values for gamma. We also dispute the Port's argument that there is broad agreement amongst academics that the marginal investor determines asset prices, and this investor is very likely to be non-Australian. Unless we can assume 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.

Our review of the Port's financial practitioners' evidence

In 2020-21, the Port justifies placing a one-third weight on a zero value for gamma 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.

The evidence from independent expert valuations and surveys of financial practitioners that the Port relies on in 2020-21 do not support the claim that financial practitioners place no value on gamma. For instance, the Port noted a survey's findings that 85 per cent of respondents did not adjust for imputation in estimating beta or the MRP. However, only 10 per cent considered that the value of imputation credits had zero market value.¹⁴³ Independent experts may not place an explicit value on imputation credits to value a company, but they do consider that there is value for Australian investors from imputation credits.

Combining the utilisation approach with the zero-gamma approach

Combining a utilisation approach estimate with a zero-gamma estimate is not 'well accepted' by regulators or financial practitioners. While regulators have considered financial practitioners' views, no regulator has placed weight on these views in estimating a gamma to set revenues or prices. Accordingly, the Port's reliance on a zero gamma estimates during the review period is not 'well accepted'.

¹⁴³ Truong, G., Partington, G., and Peat, M, Cost-of-Capital Estimation and Capital-Budgeting Practice in Australia, June 2008, p.116.

Stakeholder submissions

[REDACTED]

5.10.3. Our views on compliance

Our view is that the Port's application of the utilisation approach based on equity ownership is 'well accepted'. However, we consider that the utilisation approach based on market valuation studies and a zero-gamma value are not 'well accepted' approaches. Overall, our view is that the Port has not complied with its obligations under clause 4.2.3 of the pricing order and that this non-compliance has been sustained as it occurred each year of the review period. The gamma estimates used over the review period overestimated the required revenues of a benchmark efficient entity, which is not consistent with the requirements of the pricing order.

Our detailed analysis on gamma is outlined in Appendix 2. Our estimates of Port's gamma consistent with a well-accepted approach is outlined in Table 5.13.

Table 5.13: The commission's 'well accepted' estimates of gamma (based on equity ownership)

	2017-18 to 2018-19	2019-20	2020-21
Port's gamma	0.25	0.25	0.33
Our findings			
Distribution rate	0.77	0.7	0.8
Utilisation rate	0.643	0.714	0.625
Gamma (equity ownership)	0.45	0.50	0.50

Source: CEPA, 'Port of Melbourne five-year review - WACC', September 2021.

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5.11. Weighted Average Cost of Capital

Our finding is that the Port's WACC over the review period —2021 is not compliant with clause 4.1.1(a) and clause 4.3.1 of the pricing order. The Port's WACC is on average 200 basis points higher than our estimated WACC for a benchmark efficient entity with a similar degree of risk as the Port. Our view is that this non-compliance is significant. Since the non-compliance occurred each year of the review period we consider it sustained.

We have recalculated the Port's WACC over the review period 2016 to 2021 applying what we consider 'well accepted' approaches to estimating the WACC parameters, as discussed in the previous sections. Table 5.14 sets out our WACC estimation for each year over the review period.

Table: 5.14: Our view on the WACC range over 2016 to 2021

	2016-17	2017-18	2018-19	2019-20	2020-21
Port of Melbourne	11.54%	11.54%	11.52%	10.46%	8.93%
Commission's findings	8.25%- 9.93%	8.45%- 10.40%	8.37%- 10.03%	7.13%- 8.54%	6.01%- 8.26%
Difference	3.29% - 1.61%	3.09% - 1.14%	3.15% - 1.49%	3.33% - 1.92%	2.92% - 0.67%

In each year of the review period, the Port's WACC is on average 200 basis points higher than our calculated WACC range for a benchmark efficient entity with similar degree of risk as the Port, which we consider significant non-compliance. As the non-compliance occurred each year of the review period we consider it sustained. Our estimation of the revenue impact, that is the level of the Port's overestimated aggregate revenue requirement as a consequence of the Port's non-compliant WACC, is discussed in Chapter 4.

6. Operating expenditure

We find that the Port has not complied with clause 4.1.1(c) of the pricing order because it has not demonstrated that its approach to establishing its total operating expenditure for the review period is prudent and efficient.

Our view is that the Port's non-compliance is sustained as its approach to forecasting operating expenditure and governance processes remained consistent over the review period. We consider that the non-compliance is not significant given the Port's forecasts do not have a material impact on port users over the review period. However, we consider that bringing this finding of non-compliance to the attention of the Port allows it the opportunity to adopt a compliant approach in future periods.

Operating expenditure are recurrent costs that are usually allocated to a single year and includes costs such as labour, repairs and maintenance, security, insurance, rates and taxes as well as statutory costs due the Port's role as the Port Licence Holder.

Operating expenditure forms part of the aggregate revenue requirement and is recovered from port users each year through tariffs. Refer to section 4.1 for discussion of the aggregate revenue requirement and for more on the Port's other building blocks.

6.1. The Port's operating expenditure

We have classified the Port's operating expenditure into two categories:

- non-controllable (not directly or indirectly influenced by the Port's decisions)
- controllable (directly or indirectly influenced by the Port's decisions).

Although it is the Port's forecast expenditure that informs prices, we note that the Port's forecast and actual total operating expenditure are not significantly different over the review period.

Table 6.1 shows the Port's actual operating expenditure is approximately 25 per cent of its aggregate revenue requirement in each year during the review period.

Table 6.1: Prescribed operating expenditure compared to aggregate revenue requirement
(\$million nominal, actuals and forecast)

	2016-17	2017-18	2018-19	2019-20	2020-21 (F)
Non-controllable opex – Total	96.3	97.8	100	102.2	103.8
Controllable opex – Total	37.7	28.6	24.5	24.5	30.2
Total opex	134	126.4	124.5	126.6	133.9
Opex as a % of ARR	24%	24%	23%	23%	29%

Note: Columns may not add due to rounding. Opex refers to prescribed operating expenditure, and ARR refers to aggregate revenue requirement.

Source: Port of Melbourne, '2021-2022 Tariff Compliance Statement: General Statement', 31 May 2021, p. 58.

6.2. Our approach to assessing the Port's operating expenditure

The Port is allowed to recover operating expenditure commensurate with that required by a prudent service provider acting efficiently.^{146, 147} We consider the Port's process and approach to forecasting its operating expenditure must be arrived at on a reasonable basis and represent the best forecast or estimate possible in the circumstances to enable prudence and efficiency to be achieved.¹⁴⁸

We consider the characteristics of prudent and efficient operating expenditure forecasts are:

- based on sound and robust forecasting methodologies
- realise economies of scale
- reflect realistic cost expectations
- account for ongoing productivity improvements
- trends between forecast and actuals are identified and significant variations are justified.¹⁴⁹

¹⁴⁶ Clause 4.1.1(c) states for 'determining its Aggregate Revenue Requirement, the Port License Holder must apply an accrual building block methodology over the Regulatory Period comprising: an allowance to recover its forecast operating expenses, commensurate with that which would be required by a prudent service provider acting efficiently'.

¹⁴⁷ Forecast operating expenditure in the Port's 2021-22 tariff compliance statement is outside the scope of this inquiry. However, we have used the latest 2019-20 actual data from the Port's 2021-22 tariff compliance statement submitted on 31 May 2021.

¹⁴⁸ Clause 8.2.2 states a 'forecast or estimate: (a) must be arrived at on a reasonable basis; and (b) must represent the best forecast or estimate possible in the circumstances.'

¹⁴⁹ Essential Services Commission, Statement of Regulatory Approach - version 2.0, 28 April 2020, p.26.

6. Operating expenditure

We engaged FTI Consulting to assist us in our review of the prudence and efficiency of the Port's forecast controllable operating expenditure attributed to prescribed services over the review period.¹⁵⁰ This includes review of the additional information provided by the Port in response to our draft inquiry report. [REDACTED]

6.2.1. Non-controllable operating expenditure

We found the Port's forecast non-controllable costs were compliant with 4.1.1(c), including:

- the port licence fee payable to the Victorian government¹⁵²
- the cost contribution amounts payable to Ports Victoria.¹⁵³

6.2.2. Controllable operating expenditure

Our assessment has focused on the process and approach the Port has adopted to ensure prudent and efficient expenditure has been incurred over the review period. We have reviewed how the Port has managed operating costs by understanding the key drivers for change in controllable operating expenditure over the review period as well as its governance processes and methods for forecasting, to determine the prudence and efficiency of its operating expenditure.¹⁵⁴

Table 6.2 sets out the total forecast controllable operating costs we have assessed.

¹⁵⁰ We reviewed the financial and business records the Port provided in response to our information notice under section 56 of the PMA. In addition, the Port provided documents and comments after receipt of FTI Consulting's and then our draft reports.

[REDACTED]

¹⁵² The port licence fee is an obligation in Part 2B of the Port Management Act 1995 (Vic). Section 44H of the Act requires the Port to pay an annual port licence fee and Section 44J of the Act sets out calculation to escalating the prior year's amount annually using CPI.

¹⁵³ The Port Concession Deed is a confidential arrangement between the Port Licence Holder and Victorian government. The Port Concession Deed sets out the formula for and frequency of payments the Port must make to Ports Victoria (formerly known as Victorian Ports Corporation (Melbourne)).

¹⁵⁴ Essential Services Commission, Statement of Regulatory Approach - version 2.0, 28 April 2020, p.26.

6. Operating expenditure

This approach to targeting efficiency does not sufficiently demonstrate ex ante ongoing productivity improvements.

We recognise that the tariffs adjustment limit does constrain price increases and subsequently the revenue the Port can earn, which provides an incentive for the Port to limit its operating expenditure. However, we do not agree with the Port's view expressed in various tariffs compliance statements that this constraint is evidence of compliant expenditure.

The Port's annual budget process involves a bottom-up forecast developed by project staff and moderated by senior management, which is reviewed by a shareholder working group and approved by the Board.

Based on the information provided by the Port, FTI Consulting found this budget process could enable the first round of budget forecasts to be overstated if staff expect the top-down reviews will suppress the first bottom-up figure. In the absence of targeted cost efficiencies, the scrutiny applied through the budget process is not sufficiently robust to be driving ex ante and/or ongoing efficiency.

FTI Consulting found little information on the first stage of the bottom-up budget process, but it found that the Port relied heavily on this process to deliver efficient forecasts.

We agree with FTI Consulting that this bottom-up development and top-down review process resulted in immaterial adjustments from management, shareholders and the Board.¹⁵⁵ We consider that this does not demonstrate the Port has a sound or robust process that lends itself to prudent and efficient forecast operating expenditure.

Labour costs

[REDACTED]

¹⁵⁵ [REDACTED]

6. Operating expenditure

- [REDACTED]

The Port attributes the increase of \$1.7 million in labour costs from 2019-20 to 2020-21 to 'increased [full time equivalent] staff requirements in respect of Capital Projects mainly due to the current Rail and [Port Development Strategy] requirements'.¹⁵⁸ We consider this justification is reasonable, however we are concerned with any increase in costs with the absence of clear efficiency targets set within cost categories.

FTI Consulting found an increase across all key labour cost categories over the review period.¹⁵⁹

[REDACTED]

We recognise the Port had a transition period however, we are concerned by the absence of ex ante and ongoing productivity improvements and the upward trend in costs, without a sufficient cost reduction strategy in labour costs, at the end of the review period and since pre-lease levels.

Non-labour costs

We consider the Port largely justified changes in non-labour costs over the review period.

We confirm the Port has correctly calculated its forgone rent and third-party outgoings associated with land excised for the Port Rail Transformation Project, which has contributed to the increase in 2020-21 for utilities, administration, rental and IT cost category.¹⁶⁰

Actual and forecast operating expenditure over review period

Table 6.3 shows the difference in forecast and actual operating expenditure over the review period.

[REDACTED]

¹⁵⁸ Port of Melbourne, 'Tariff Compliance Statement 2020-2021: General Statement', 31 May 2020, p.56.

¹⁵⁹ [REDACTED]

¹⁶⁰ Clauses 4.5.3 and 4.5.4 of the pricing order allow the Port to include an amount in its operating costs for changes in tenancy and rent for the purposes of the Port Rail Transformation Project.

6. Operating expenditure

- reviewed its forecasting methodology
- identified the reasons for the continual differences between forecasts and actuals
- sought to improve its forecasting method for later years of the review period.

As a result of our assessment for the review period, we consider the Port does not have sound or robust forecasting methodologies and governance processes, it has not adequately accounted for ongoing productivity improvements.

We acknowledge the Port considers its operating expenditure is likely to stabilise in the next review period, which may help it to establish a more representative baseline for future forecasts.

6.3. Our views on compliance

We find the Port has not complied with clause 4.1.1(c) because its approach to forecasting operating expenditure for the review period does not demonstrate prudence and efficiency.

We find that the Port's Port Rail Transformation Project costs complied with clauses 4.5.3 and 4.5.4. We also find that the Port's forecasts for its port licence fee and cost contribution amounts were appropriate.

We have also considered the Port's approach to forecasting its operating expenditure in the context of its transition and the information requirements under clause 8 of the pricing order. Clause 8.2.2(a) concerns the approach and process for forecasting and clause 8.2.2(b) requires that prudent and efficient outcomes are a focus of the process and approach to forecasting.

Given we found the Port's forecasting methodology was not sufficiently sound or robust, we consider that after three years the Port should have completed its transition and established productivity improvements. The Port had time to improve its method to ensure its' expenditure was arrived at on a reasonable basis and represent the best forecast possible in the circumstances. On this basis, we consider the Port operating expenditure forecasts for 2019-20 and 2020-21 did not comply with clause 8.2.2(a) and (b).¹⁶³

We consider the non-compliance is not significant given the Port's approach has led to an initial reduction in controllable operating costs before the increase at the end of the review, and the Port's forecasts do not currently have a material impact on port users. We consider the Port's non-compliance is sustained because the Port's forecasting and governance approaches remained consistent across the review period and therefore were not transitory.

¹⁶³ Clause 8.2.2 states a 'forecast or estimate: (a) must be arrived at on a reasonable basis; and (b) must represent the best forecast or estimate possible in the circumstances'.

7. Capital expenditure

We find that the Port's approach to capital expenditure, forecasting, planning and management over the review period is compliant with clauses 4.2.1(c), 4.2.4, 4.2.5, 4.2.7, and 4.2.8 of the pricing order.

In the Port's building block model, the value of the capital base is a key input into determining its aggregate revenue requirement. The return of capital (depreciation) and return on capital building block components are both calculated using the value of the capital base.¹⁶⁴ To calculate the capital base at any particular time, the pricing order requires that actual or forecast capital expenditure that is added to the capital base be efficient and reflects prudent actions.¹⁶⁵

We engaged FTI Consulting to assist us in our review of the prudence and efficiency of the Port's capital expenditure over the review period.¹⁶⁶

7.1. The Port's capital expenditure

The Port's capital expenditure in the review period includes maintenance and capital projects, and averages around \$75 million per year.

The Port categorises its major capital projects into two groups:

- growth projects, which made up most of the capital expenditure and are comprised mostly of larger projects, either in the planning phase or in the implementation phase
- renewal capital expenditure, which is smaller in quantum but comprises a larger number of small projects.

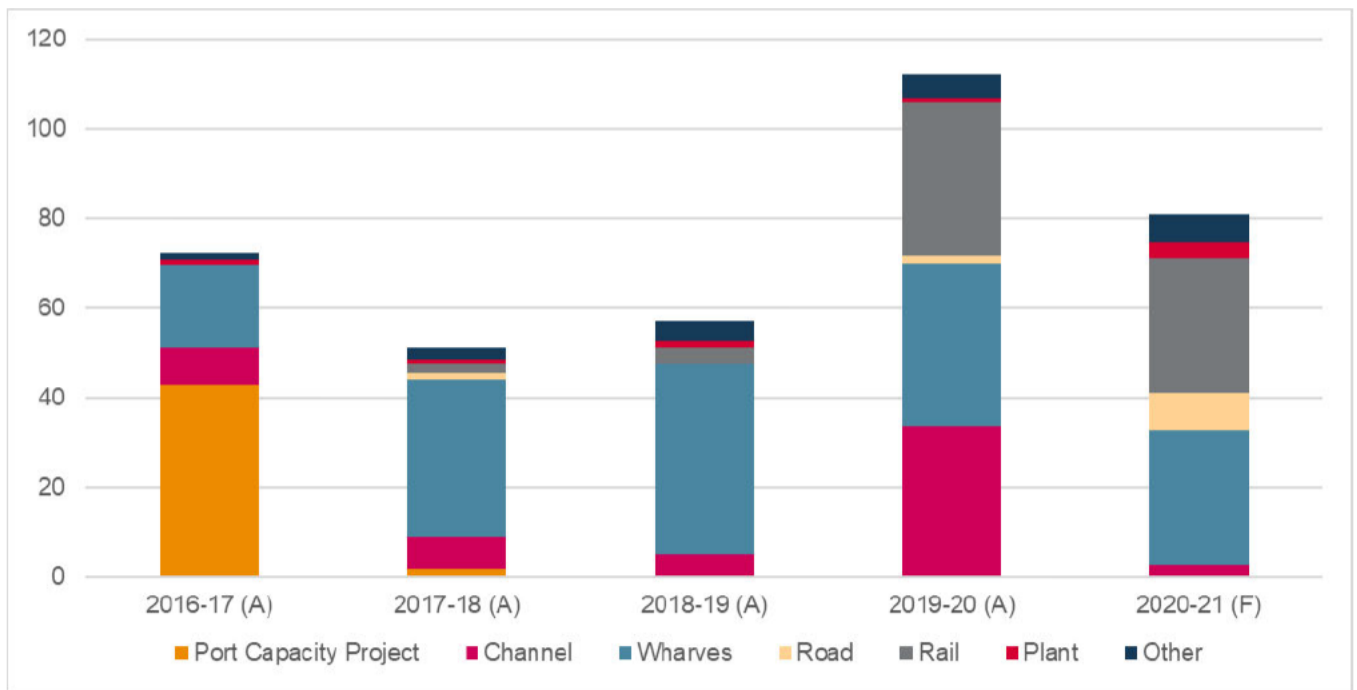
Figure 7.1 illustrates the key drivers of the Port's capital expenditure program over the review period.

¹⁶⁴ See Chapters 4, 5 and 8 for more information on the building block model and its calculation.

¹⁶⁵ Clause 4.2.1(c) of the pricing order.

¹⁶⁶ [REDACTED]

Figure 7.1: Prescribed services capital expenditure from 2016-17 to 2020-21 by category (\$ million)



Source: Port of Melbourne, Tariff Compliance Statement 2021-22, General Statement, 31 May 2020, Table 20, p.63.

7.1.1. Major projects

The Port's major projects for the review period include:

- six projects and programs with capital expenditure greater than \$10 million over the review period
- three further projects with less than \$10 million capital expenditure over the review period but are part of a broader program of works that meets the threshold.

Together these projects account for around 70 per cent of the Port's total capital expenditure on prescribed services.

7.2. Our consideration of the Port's approach

We have designed our assessment to consider the robustness of three key areas in line with our Statement of Regulatory Approach:^{167, 168}

- the Port's capital forecasting approach
- the Port's systems and processes for capital planning and management
- capital expenditure incurred on the Port's major projects, which are above the \$10 million threshold.

In forming our final view, we considered the Port's response to our draft inquiry report along with its response to the FTI Consulting report.¹⁶⁹

7.2.1. Capital forecasting

The Port's expenditure forecasting can be classified into two categories:

- short term (rolling five-year) forecast in the Port's tariff compliance statement
- medium term forecast as in the Port Development Implementation Plan.

[REDACTED]

[REDACTED]

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]

¹⁶⁷ We note that we did not have to further investigate the remaining 30 per cent of capital expenditure not included within the major projects as we did not find serious concerns with the Port's governance, procurement, and asset management practices.

¹⁶⁸ Our Statement of Regulatory Approach sets out the characteristics of prudent and efficient capital expenditure. We require the Port's tariff compliance statements to provide supporting information demonstrating how capital expenditure is based on sound forecasting methodologies, robust asset planning and a robust governance system. The Port should also demonstrate that the contingency allowance is transparent and contractual agreements are designed to properly manage project delivery risks. A list of information required to assist us in our review are outlined in our Statement of Regulatory Approach – version 2.0, p.19.

¹⁶⁹ [REDACTED]

[REDACTED]

- [REDACTED]

[REDACTED]

7. Capital expenditure

The Port has maintained its rolling five-year capital forecast and delivered its capital program within five per cent of the forecast, although in 2017-18, the Port underspent against its forecast by more than 20 per cent. The comparison between the Port's capital expenditure forecast and actual spending are presented in Table 7.1.

Table 7.1: Forecast versus actual annual capital expenditure – 2016-17 to 2020-21 (\$ million)

Year	Forecast	Actual	Over/underspend
2017-18	\$68.7m	\$72.4m	Overspend \$3.6m (5.3%)
2018-19	\$67.6m	\$51.2m	Underspend \$16.4m (24.3%)
2019-20	\$67.7m	\$57.3m	Underspend \$10.4m (15.4%)
2020-21	\$107.0m	\$112.4m	Overspend \$5.4m (5.0%)

Source: The Port of Melbourne's 2018–22 tariff compliance statements. Note: The figures are rounded.

We reviewed the evidence provided by the Port and consider that it has adequately justified any delay in capital projects or increase in scope and costs. The evidence also demonstrated that the Port has a reasonable forecasting approach for various phases of project planning and delivery.

7.2.2. Capital planning and management

We agree with FTI Consulting's finding that the Port's capital planning processes contribute to prudent and efficient capital expenditure. FTI Consulting also considered if risk is appropriately managed through the Port's risk policy and risk management framework and notes the Port's use of collaborative procurement.¹⁷¹

FTI Consulting noted, and we agree, that the Port's collaborative procurement approach may be outsourcing risk to contractors through higher costs.¹⁷² Given the Port ultimately recovers its capital costs from port users through deferred depreciation, this risk may be outsourced to port users. We believe that the Port should consider who is best placed to bear each of the risks for its capital projects.

¹⁷¹ FTI Consulting also found the Port's governance processes to be working effectively and that the Port's project management framework reflects best practice.

¹⁷² [REDACTED]

7.2.3. Major projects

We assessed the Port's nine major projects and programs. We consider that majority of the capital expenditure can be categorised as maintenance and renewals. We found some elements of the projects were to support growth, including capacity for increases in trade.

To demonstrate prudence, the Port has provided project concept and feasibility study reports as well as business cases and stakeholder consultations. To demonstrate expenditure efficiency the Port provided project delivery plans including contract packages with scope and cost schedules, project risk and opportunity assessments, delivery reports and project close-out reports (if a project is completed). We found that:

- The projects and programs undertaken during the review period are required to support the needs of port users and were robust and deliverable. However, we noted that the sample of business cases for projects progressed during the review period varies in content and quality. Some are only summary papers, rather than comprehensive reports reflecting a detailed consideration of the project at that time. We consider that, given capital planning will become more complex in the next review period, continuing this approach might result in capital expenditure that is not incurred prudently.
- Initial cost estimates were reasonable although in some cases actual costs had increased or were forecast to increase in future stages. However, we found that the Port may not be including appropriate contingencies (too little in some cases), which we consider could lead to a material impact in the future.
- Expenditure for major projects was efficient in terms of both cost and timing and was based on prudent decisions in the planning and delivery of the capital works.

Overall, we agree with FTI Consulting's view that the capital expenditure undertaken during the review period on the nine major projects reviewed is prudent and efficient. However, as noted above, if the Port continues with its current approach to establishing prudent and efficient capital expenditure for more complex and larger future capital spends, we consider its current approach may not be adequate to justify the prudence and efficiency of such significant spends.

It should be noted that given the Port Capacity Project and Port Rail Transformation Project are deemed to be prudent by the pricing order,¹⁷³ we only reviewed these two projects for efficiency, and both are considered efficient.

¹⁷³ Clauses 4.2.4 and 4.2.7 of the pricing order.

7.3. Our views on compliance

We find that the Port's approach to capital expenditure, forecasting, planning, and management during the review period, is compliant with clauses 4.2.1(c), 4.2.4, 4.2.5, 4.2.7, and 4.2.8 of the pricing order.

We observe that the Port's capital program will transition from having a primary focus on maintenance and renewals to one that caters more for anticipated growth at the port. We note the Port's forecast growth projects require higher expenditure than current levels and may involve more complex capital planning.

We consider that the Port's existing assurance processes may not be adequate for the next review period. For example, we would expect the Port to demonstrate:

- sufficiently detailed business cases
- appropriate management of risk between the Port and port users through its cost estimation and procurement processes
- its projects meet the needs of port users and also Victorian consumers.

8. Depreciation

We find that the Port's approach to calculating and applying depreciation over the review period is compliant with clause 4.4 of the pricing order.

The Port's approach has been compliant in each year of the review period, where the tariffs adjustment limit has prevented depreciation calculated on a straight-line basis from being recovered.

Depreciation measures the decline in the service potential of an asset as a result of wear and tear, ageing or obsolescence. Depreciation is an integral component of the Accrual Building Block Methodology because it is used in the calculation of both the Port's capital base and aggregate revenue requirement. As such, depreciation will directly affect the Port's revenue and the tariffs it will charge to its end users once the tariffs adjustment limit (TAL) period ends.

8.1.1. Port of Melbourne's approach

Over the period from 2016 to 2021, the Port's forecast prescribed services revenue (subject to the TAL) has been below its calculated aggregate revenue requirement (ARR). The Port has then made a decision to set its annual straight-line depreciation over this period to zero and deferred recovery of the calculated straight-line depreciation charges to future years.

8.1.2. Our consideration of the Port's approach

The Port has constructed its regulatory models to allow recovery of depreciation (either in full or partially) during periods when the TAL revenue is less than its calculated ARR.

Our review of the Port's regulatory models confirms that the Port has calculated its depreciation charges over the review period using a straight-line methodology, however collected zero depreciation because the revenue it can collect is less than its ARR (which includes the efficient level of depreciation costs) due to the TAL constraint.¹⁷⁴ When the Port's calculated ARR is higher than the TAL revenue, the regulatory models are designed to default depreciation to zero and defer all unrecovered depreciation into the future.

We consider that the Port's approach to depreciation is compliant with the pricing order because:

¹⁷⁴ Clauses 4.4.1(a) and (b) of the pricing order.

- The pricing order recognises the potential for revenue shortfalls between the ARR and the TAL revenue by providing the Port with a mechanism to limit any shortfalls.
- Clause 4.4.2(a) of the pricing order provides that the Port ‘may only use an alternative to the straight-line methodology’ if the application of the TAL does not allow the return of capital derived using the straight-line methodology to be recovered in the applicable year.¹⁷⁵
- Clause 4.4.3 of the pricing order allows for zero depreciation because it states that the return of capital allowance must not be below zero in any of the financial years. This clause does not rule out the amount being zero.
- Clause 4.4.1(c) provides that the Port may depreciate assets ‘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’. In other words, this clause requires that the depreciation over the economic life of the assets does not recover initial asset values more than once. We have undertaken the relevant calculations which have verified the Port is compliant with this clause.^{176, 177}

However, we have the following observations:

- We consider that the practical effect of the TAL over the review period does not allow any amount of depreciation from being recovered. However, for a year in which the TAL would not prevent any amount of depreciation to be recovered, clause 4.4.2(a) could then be open to more than one possibility of what is required; different interpretations are available.¹⁷⁸
- Based on the Port’s 2020-21 tariff compliance statement regulatory model, and assuming that recovery of depreciation does not occur until the end of the TAL period in 2032-33, the total depreciation available for recovery is estimated at \$2,349.5 million.¹⁷⁹ We observe in the model that this amount is ‘available’ for recovery in 2032-33. However, the Port has not indicated how this amount is to be recovered in a manner that will avoid a significant price shock to port users during the post-TAL period.

¹⁷⁵ We note that the Port has not relied on clause 4.4.2(b) as a basis for its alternative methodology for depreciation. Therefore, we consider this clause does not apply to the Port during the current review period.

¹⁷⁶ Our review of the Port’s regulatory models indicates that the sum of depreciation charges over the applicable period yields a value greater than the sum of initial asset values. However, this is mainly due to the effect of inflation (indexation). When the inflation (indexation) adjustment is considered, the sum of depreciation charges in the model, in **real terms**, would equate to that of the initial asset values. We note that the Port’s models include formulas to, in effect, provide confirmation of compliance with this clause.

¹⁷⁷ Port of Melbourne, ‘2020-21 Tariff Compliance Statement: Appendix B, Compliance’, May 2020.

¹⁷⁸ For example, could the Port elect to charge no depreciation if the full straight-line amount could not be recovered, must it charge as much as can be recovered, or can it charge another amount? Is such a decision to be guided by a discernible methodology or is the Port’s decision on the amount of depreciation unregulated by the pricing order?

¹⁷⁹ Port of Melbourne, ‘2020-21 Tariff Compliance Statement: Appendix B, Return of Capital’, May 2020.

8. Depreciation

- Chapter 12 details our consideration of the Port’s engagement with port users on depreciation. We consider that deferred depreciation ultimately has a significant impact on port users, but the Port has not provided appropriate content to inform them of the implications during the review period. That is, over which period the \$2,349.5 million would be recouped from them through its tariffs. Accordingly, port users have not been able to meaningfully participate in the Port’s consultation over the review period.¹⁸⁰

Stakeholder submissions

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

8.1.3. Our views on compliance

We find that the Port's approach to calculating and applying depreciation in its regulatory models over 2016-17 to 2020-21, the review period, is compliant with clause 4.4 of the pricing order. Specifically, the Port has not applied straight-line depreciation as required under clause 4.4.1 of the pricing order, but rather used the only possible alternative, which is an alternative as contemplated under clause 4.4.2(a) of the pricing order.

9. Cost allocation

We find that the Port has not complied with the cost allocation principles under clause 5.2.1. Our view is that the impact of the non-compliance is not significant because there is no price impact on port users during the review period due to the tariffs adjustment limit. That is, it does not significantly impact the PMA objective 'ensuring that prescribed prices are fair and reasonable'.

Since this non-compliance is observed across the review period, we consider it to be sustained non-compliance.

The pricing order requires the Port to allocate its costs between prescribed services and other services in a manner consistent with the cost allocation principles. Clause 5.1.1 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.¹⁸⁴ 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 tariffs and may be cross-subsidising the prescribed service(s) provided to other port users.

This chapter sets out our views on the Port's approach to cost allocation.

9.1. Our consideration of the Port's cost allocation methodology

The Port has used a cost allocation approach 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 2019-20.¹⁸⁵

We found the Port did not allocate its directly attributable operating costs to individual prescribed services in the first three years of the review period, which is non-compliant with clause 5.2.1. However, in the last two years the Port's approach to allocating operating costs based on revenue shares, rather than specific cost drivers is appropriate.

¹⁸⁴ 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'.

¹⁸⁵ 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.

We found road and rail asset costs unrelated to the Port Rail Transformation Project have not been allocated correctly. We consider this is non-compliant with clause 5.2.1 due to the incorrect application of the cost allocation principles occurring across 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.¹⁸⁶ 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 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. We agree there will be no material impact on port users once the Port makes the corrections in its 2022-23 tariff compliance statement.¹⁸⁷ Prices during the review period are set in accordance with the tariffs adjustment limit. We expect the Port to consider whether any corrections are needed for cost allocations within its deferred depreciation, as well as for future cost allocations. We also expect the Port to be able to ring-fence its Port Rail Transformation Project costs from other rail costs for future price setting.

Aside from these issues, we consider the Port's approach to allocating its directly attributable capital costs was appropriate.¹⁸⁸

We consider the Port's approach to allocating shared costs to prescribed services (in aggregate) based on the share of total revenue accounted for by prescribed services is reasonable.¹⁸⁹

9.2. Our final view on the manner of the Port's non-compliance

We have summarised the Port's non-compliance with clause 5 of the pricing order across the review period in Table 9.1.

¹⁸⁶ 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.

¹⁸⁷ [REDACTED]

¹⁸⁸ Clause 5.2.1(a) states 'costs that are directly attributable to the provision of the Prescribed Service must be attributed to that Prescribed Service'.

¹⁸⁹ Clause 5.2.1(b) states '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'.

Table 9.1: Summary of cost allocation non-compliance during the review period

2017-18	2018-19	2019-20	2020-21
<ul style="list-style-type: none">• Clause 5.2.1(a) opex• Clause 5.2.1 capex	<ul style="list-style-type: none">• Clause 5.2.1(a) opex• Clause 5.2.1 capex	<ul style="list-style-type: none">• Clause 5.2.1 capex	<ul style="list-style-type: none">• Clause 5.2.1 capex

Note: Opex refers to operating expenditure and capex refers to capital expenditure.

We find the Port has not complied with clause 5.2.1 across the review period but the non-compliance is not significant.

This is a sustained non-compliance since the cost allocation principles were not correctly applied each year of the review period. The Port has advised it will rectify the road and rail cost allocation errors in its 2022-23 tariff compliance statement, which will prevent any material impact on port users.¹⁹⁰ We consider that the Port should improve its assurance processes for applying its cost allocation principles.

¹⁹⁰ [REDACTED]

10. Demand

We find that the Port complied with the information requirements with respect to demand forecasts for its prescribed services, as per clause 8.2 and 8.3 of the pricing order.

Overall, the Port's long-term modelling is reasonable and consistent with industry practice.

The assumptions are reasonable, and data used to support the forecasting are clear, although we have some concerns on the validity of the assumptions for particular trade categories.

While there is no obvious bias in the short-term forecasts (forecasts were both higher and lower than predictions), three years of ex-post data are not sufficient to test whether the approach produces the best forecast or estimate possible.

The Port is required to satisfy information requirements pertaining to demand forecasts for its prescribed services¹⁹¹ as per clause 8.2 and 8.3 of the pricing order. Demand forecasts have two important links to the building block approach to pricing. First, demand forecasts are generally used to determine the need for, and timing of, capacity expansions. Second, short-term (one year -ahead) forecasts are used to set prescribed service tariffs that will achieve maximum allowable revenue assuming the expected demand is achieved over the regulatory period.¹⁹²

During this review period, demand forecasts have also been used to estimate the forecast revenue for each regulatory year and compare it to the maximum allowable revenue requirement to determine whether to apply or defer straight-line depreciation during the regulatory period. Demand forecasts are also an integral input in meeting the efficient cost bounds requirements when setting tariffs.¹⁹³

Demand for the Port's prescribed services falls into two major categories, namely trade volumes related to the use of wharfage infrastructure and the provision of channel, berth hire and wharfage services.

Full import and export containers are by far the most important source of revenue for the Port. These contributed to around 57 per cent of the Port's actual revenue from prescribed services in

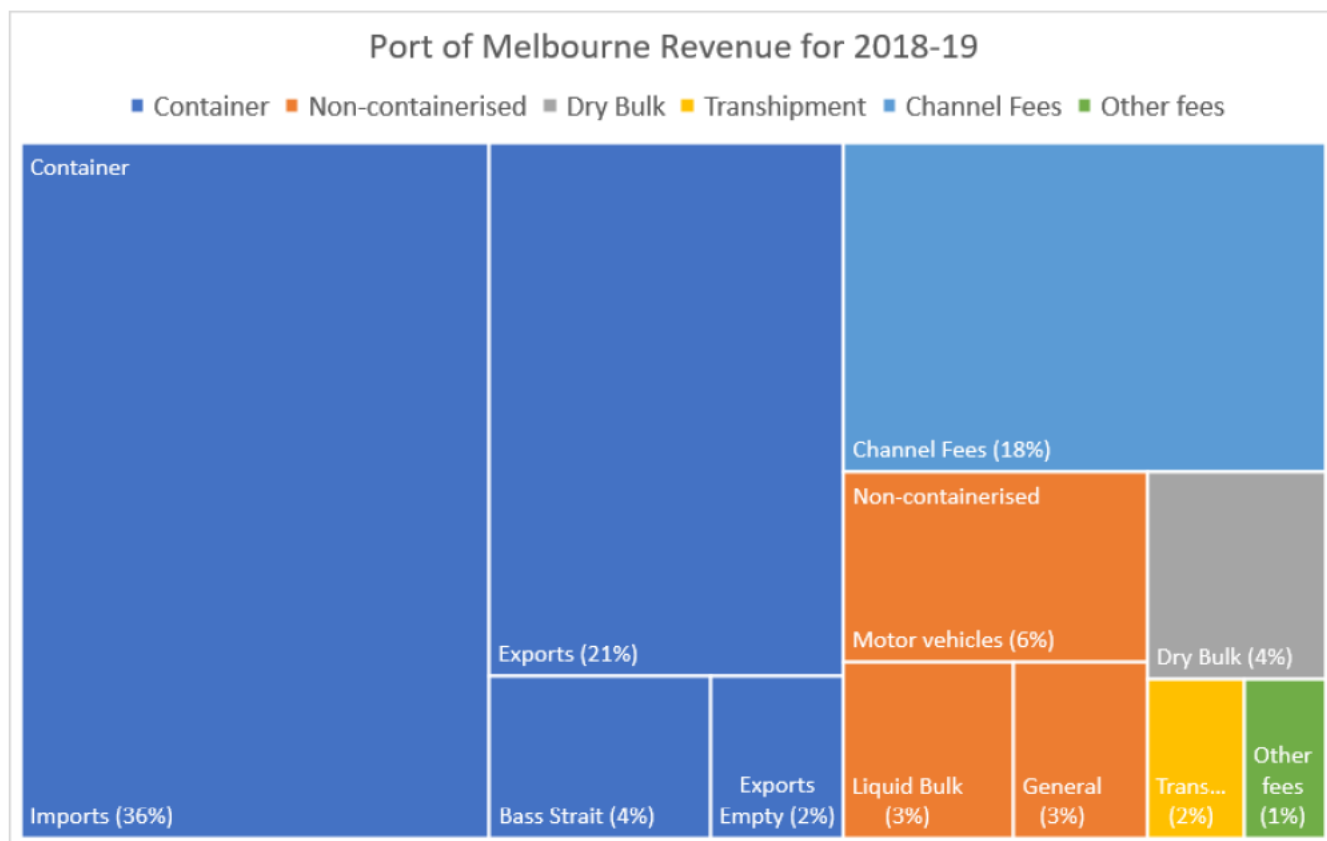
¹⁹¹ Section 49(1)(c) of the Port Management Act 1995 (Vic).

¹⁹² However, during the period where the Tariffs Adjustment Limit is in place, tariffs can only be increased by CPI inflation. Therefore, demand forecasts have no short-term impact on prescribed service tariffs as long as the aggregate revenue requirement exceeds forecast prescribed services revenue.

¹⁹³ Clause 2.1.1(b) of the pricing order.

2018-19. This is followed by revenue from channel fees which accounted for 18 per cent (see Figure 10.1).

Figure 10.1 Relative contribution of prescribed services to the Port's 2018-19 regulated revenue



Source: Port of Melbourne's 2020-21 regulatory model.

In our assessment of the Port's demand forecasts, we mainly focused on containerised import and export demand given their materiality.¹⁹⁴ For the remainder of the chapter, we detail the Port's approach to demand forecasting in terms of the methodology and implementation and our assessment of their approach to determining the Port's compliance with the requirements of the pricing order.

¹⁹⁴ FTI Consulting assisted us in our assessment of the Port's demand over the review period.

10. Demand

10.1. The Port of Melbourne's approach

During the review period, the Port has engaged an external consultant, BIS Oxford Economics (BISOE), to forecast the trade volumes associated with the provision of its wharfage services. BISOE uses a structural model that groups commodities which share a common driver and uses integrated macroeconomic models to predict those drivers. BISOE then adjusts for trends. The Port has internally forecasted vessel channel, berth hire and wharf access by relying on historical data and forecast growth trends rather than using a structural approach.

The Port adopts the same approach for both its annual and long-term demand forecasting of trade wharfage volumes, and this same structural method was used by the Lonsdale Consortium underpinning its bid for the Port of Melbourne 50-year lease. The parameters used in long-term forecasting are different to those used in short-term forecasts and they vary with each version of the long-term model. The Port notes that the long-term demand forecasting model is updated with new economic data and new relationships between the data.

10.2. Our consideration of the Port's approach

The pricing order contains four key clauses that are applicable to the assessment of demand forecasts. Two of the clauses relate to the information requirements and the other two clauses relate to the appropriateness of the methodology and implementation of the demand forecasts.¹⁹⁵

10.2.1. Assessment of information supporting the basis of the forecasts

Our view is that the Port has complied with clause 8.2.1 for the review period as most forecasts are supported by a statement of the forecast's basis. We reviewed the documentation provided by the Port in its tariff compliance statements as well as the documents and models provided in response to an information request under section 56 of the PMA. The Port's earlier tariff compliance statements did not contain sufficient information on how the Port's consultant derived their forecasts, but more information has been subsequently provided to enable us to make the assessment.

¹⁹⁵ Clause 8.2.1 requires estimates or forecasts to be supported by a statement of the basis of the forecast or estimate (methodology); Clause 8.3.1 requires forecasts to be supported by the primary information on which the extrapolation or inference is based (implementation); Clause 8.2.2 (a) requires forecasts to be arrived on at a reasonable basis; Clause 8.2.2 (b) requires forecasts to represent the best forecast or estimate possible in the circumstances.

10.2.2. Assessment that the demand forecasts are supported by primary information used to develop any extrapolation or inference

Our view is that the Port has complied with clause 8.3.1 over the review period as most demand forecasts are supported by the primary information used to develop any extrapolation or inference.

We reviewed the calculations and underlying data sources and found no significant issues over the review period. We note that for the trade volume forecasts, the Port relies on forecasts of macroeconomic drivers derived from their consultant's proprietary economic models and databases, which the Port does not have access to. While we have limited information to directly interrogate the models, we consider the explanation of the models reasonable. We note that BIS Oxford Economics prepares demand forecasts on a similar basis for many significant ports around the world.¹⁹⁶

10.2.3. Assessment that the forecasts have been arrived on at a reasonable basis

Our view is that the Port has complied with clause 8.2.2(a) for the review period, where the forecasts have been arrived on at a reasonable basis.

The overall approach is reasonable and consistent with industry practice. The use of a structural modelling approach is appropriate to model scenarios for long-term forecasts.

Assumptions are generally reasonable and data used to support the forecasting are clear, although the validity of assuming a 1:1 relationship with demand drivers has not been supported by econometric analysis. Failure to use parameters derived from correctly specified econometric models may result in poor forecasts.

We have some concerns about the following aspects of the Port's short-term modelling:

- We note that the short-term import forecast models include a forecast error term that align the short-term model forecasts with the long-term model forecasts. We consider this a reasonable approach as the annual updates to the long-term forecasts will also be reflected in the short-term forecasts. However, we note that such an adjustment is not made for all commodity forecasts in the short-term model, which means there could be differences between the short-term and long-term forecasts for those commodities.
- We note that there is no adjustment to the indices to reflect changes over time in the use of 20' or 40' containers for exports in the short-term models, which can mean forecasts would be overstated especially in 2016-17 and 2017-18 estimates.

¹⁹⁶ See <https://www.oxfordeconomics.com/about-us/sectors-we-serve/infrastructure>.

10.2.4. Assessment that the forecasts represent the best forecasts given the circumstances

Our view is that we are generally satisfied that the Port's demand forecasts are the best possible in the circumstances, as per clause 8.2.2(b) of the pricing order, over the review period. We have assessed whether the Port's approach does not result in forecasts that consistently over-estimate or under-estimate demand. While there is no obvious bias in the short-term forecasts (forecasts were both higher and lower than predictions), we note that three years of ex-post data are not sufficient to test whether the Port's approach produces the best forecast or estimate possible.

Assessment of the long-term forecasts

While the Port has considered the long-term demand forecasts in its capital investment strategy,¹⁹⁷ none of the capital expenditure over the review period relates to capacity expansion.

Assessment of short-term demand forecasts

With only three years of ex-post evidence, it is difficult to assess the performance of the annual forecasts prepared for one-year regulatory periods. We compared the Port's forecasts for 2017-18, 2018-19 and 2019-20 against the actuals reported three years subsequently and find the Port's demand models have a poor record of actually forecasting one-year ahead trade forecasts. However, we note that accurately predicting annual changes to industry demand one year ahead is difficult at the best of times, and near impossible when unprecedented events such as the coronavirus pandemic occur.

10.3. Our final views on compliance

On balance, we find that the Port has complied with all the information requirements related to forecasts across the review period. We have expressed some concerns related to the reasonableness of some assumptions underpinning the forecasting methodology of particular demand categories. However, we do not consider these issues to be significant. During the review period while the tariffs adjustment limit applies, the Port's tariff setting is restricted to CPI inflation. This means that the Port's demand forecasts do not impact tariffs over the review period.

11. Prescribed service tariffs

We find that the Port's prescribed service tariffs were non-compliant across the review period and across a number of pricing order clauses.

We consider the Port's tariff compliance statements did not always contain adequate content for us to assess the Port's prescribed service tariffs against the pricing order.

However, our view is that the non-compliances were not significant because they did not significantly impact the objectives of the PMA. We also found evidence that the Port improved the content of the tariff compliance statement over the review period. Our view is that the Port's prescribed service tariff non-compliance is sustained as it occurred throughout the review period.

The Port is required to comply with the pricing order when it sets its tariffs and prices for the provision of prescribed services.¹⁹⁸ 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 2019-20.¹⁹⁹

During the review period, the Port has sought to increase the 2016-17 initial prescribed service tariffs in line with the tariffs adjustment limit for 2017-18, 2018-19, 2019-20 and 2020-21.²⁰⁰ The Port submitted to us but later withdrew its first and only rebalancing application in 2020-21.

11.1. Our views on compliance

You can find our detailed assessment of the Port's compliance with the pricing principles and documentation requirements for its prescribed service tariffs in Appendix 4.

During the review period, we found the Port has not complied with:

- recovering the efficient cost of providing all prescribed services determined by the accrual building block methodology (clause 2.1.1(a))
- using audited revenue to calculate the weighted average tariff increase (clause 3.1)

¹⁹⁸ Prescribed services are set out in section 49(1)(c) of the Port Management Act 1995 (Vic).

¹⁹⁹ Victorian Government Gazette No. S 247, Wednesday 20 May 2020.

²⁰⁰ 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.

- when and how it can make a tariff rebalancing application (clause 3.2)
- the requirements for annual tariff compliance statements (clause 7)
- information requirements for the Port's data (clause 8).

For the other relevant pricing order clauses, we found the Port has complied with:²⁰¹

- how it should set prescribed service tariffs (clauses 2.1.1(b) to 2.1.5)
- how it recovers Port Rail Transformation costs (clause 2.1.6)
- specific conditions for shared channel tariffs (clause 2.2)
- the container export pricing decision (clause 2.3)
- the requirements for annual reference tariff schedules (clauses 6.1 and 6.3)
- the conditions for when it can enter into contracts for prescribed services (clause 6.2)
- initial prescribed service tariffs (clause 11).

11.1.1. Prescribed service tariffs are not compliant

We found evidence of several instances where the Port's prescribed service tariffs did not comply with the pricing order during the review period, except for 2016-17 where the Port correctly charged the prices set out in Schedule 1 of the pricing order. We have summarised these instances in Table 11.1.

Table 11.1 Summary of non-compliances during the review period

2017-18	2018-19	2019-20	2020-21
<ul style="list-style-type: none"> • Clause 2.1.1(a) 	<ul style="list-style-type: none"> • Clause 2.1.1(a) • Clause 3.1.1 • Clause 3.2.3 	<ul style="list-style-type: none"> • Clause 2.1.1(a) • Clause 3.1.1 	<ul style="list-style-type: none"> • Clause 2.1.1(a) • Clause 3.1.1

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

Our assessment of each clause is set out below:

- **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 will recover above the efficient cost of providing all prescribed services, so the Port is not compliant with

²⁰¹ A number of clauses do not apply during the review period, therefore we have not assessed the Port's compliance with:

- conditions when the tariffs adjustment limit no longer applies (clauses 3.3 and 3.4)
- information requirements for the Port's data (clauses 9 and 10).

11. Prescribed service tariffs

clause 2.1.1(a). However, we note that the Port's prices are currently limited by clause 3.1.1 since the tariffs adjustment limit applies.

- **Clause 3.1.1:** the Port did not use audited revenues to calculate the weighted average tariff increase in 2018-19, 2019-20 and 2020-21. The difference between audited and unaudited revenue was immaterial during the review period, so we consider this non-compliance is not significant.
- **Clause 3.2.3:** the Port has introduced tariffs for a Victoria Dock slipway as prescribed service tariffs in 2018-19. However, these slipway tariffs were not set out in the pricing order and the Port has not submitted a rebalancing application to introduce new prescribed service tariffs. We acknowledge these tariffs and the prescribed service are a continuation from pre-privatisation. However, the Port should instead treat these slipway tariffs as contracts for prescribed services within its tariff compliance statements.

11.1.2. The Port's tariff compliance statements are not compliant

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. The Port has set prices five times during the review period for the financial years 2017-18 to 2021-22.

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 we consider that will form part of our inquiry for the period 1 July 2021 to 30 June 2026.²⁰² Further detail can be found in Appendix 5.

Across the review period, we found that the Port did not always provide sufficient content on:

- the effectiveness of its consultation with port users and having regard to comments provided by port users (clause 7.1.2(d))
- how tariffs comply with the pricing order (clause 7.1.2(e))
- the basis of its forecasts and estimates under clause 7.1.2(g).

Although we have found some information deficiencies that do not comply with clause 7.1.2, we consider the manner is not sustained because we have seen the Port improve its tariff compliance statements over time in response to feedback in our interim commentaries. We find the non-compliances were not in a significant manner because the tariffs adjustment limit means any impacts on port users are immaterial. That is the impact on the objectives of the PMA are not significant.

²⁰² Refer to paragraphs 35-39 of the Queen's Counsel advice in Appendix 9.

12. Consultation with port users

We find that the Port has not complied with clause 7.1.2(d) of the pricing order during the review period. We found evidence that the Port has not effectively consulted, nor has it had regard to port users' comments at several points in the review period.

Our view is that the Port's non-compliance with the requirements of clause 7.1.2(d) was in a sustained manner because it was non-compliant for the last two years of the review period.

Our view is that the Port's non-compliance was in a significant manner because the lack of effective engagement has had the following impacts which are not minor or temporary:

- undermining the confidence of port users and other stakeholders in the integrity of the regulatory regime
- as a consequence, not promoting the efficient use of, and investment in the provision of prescribed services.

Summary of compliance with clause 7.1.2(d) for each year's tariff compliance statement

Year prices apply	2017-18	2018-19	2019-20	2020-21	2021-22
Clause 7.1.2(d)	Compliant	Compliant	Compliant	Non-compliant	Non-compliant

Every year, the Port submits a tariff compliance statement setting out information to explain its prescribed service tariffs.²⁰³ Clause 7.1.2(d) states that a tariff compliance statement must:

set out the process by which the [Port] has effectively consulted and had regard to the comments provided by Port Users.²⁰⁴

²⁰³ The Port's tariff compliance statements are available on our website: www.esc.vic.gov.au/transport/port-melbourne/port-melbourne-compliance-pricing-regulations.

²⁰⁴ We are required to assess whether the content in each tariff compliance statement is sufficient to affirm the Port's compliance, and we must also assess whether the Port's consultation during the review period was effective and that the Port had regard to the views of port users. Refer to paragraphs 35-43 in the legal advice provided to the commission by Peter Hanks QC and Catherine Dermody on inquiry scope.

We stated in our 2020-21 interim commentary that:

We consider that the Port should do more to demonstrate that the processes it has undertaken throughout its engagement consultation are effective in ensuring stakeholders are able to effectively collaborate on key issues and inform outcomes.²⁰⁵

A 'port user' is a defined term in the pricing order.²⁰⁶ However, we acknowledge that the Port also engages with a range of stakeholders that are generally not considered port users under the pricing order, such as Federal or State governments, statutory authorities such as Ports Victoria, local councils, communities and industry associations. We received strong interest in our inquiry from non-Port users, such as the Maritime Union Authority. While the pricing order does not require the Port to consider the scope of issues raised by non-port users, we note that some non-port users are concerned about the Port's approach to engagement.

12.1. The Port's engagement in its tariff compliance statements

During the review period, the Port has undertaken four key engagement programs with its port users and other stakeholders that have informed its tariff compliance statements. We acknowledge the Port undertakes day-to-day engagement activities with its tenants, transport providers, cargo owners and other port users as part of its operations.²⁰⁷ More detail on the Port's industry update program, the Port Development Strategy, rail projects and the Big Ships Strategy is available in Appendix 6.

12.1.1. Industry updates

Every year, the Port presents updates to port users and key stakeholders and seeks to understand their views on amongst other things, trade, capital projects and matters that affect prices. The Port

²⁰⁵ Essential Services Commission, Interim Commentary: Port of Melbourne tariff compliance statement 2020-21, 16 December 2020, p.29.

²⁰⁶ The pricing order defines a 'port user' as a 'person who requests or receives Prescribed Services', where prescribed services have the same meaning as in section 49(1)(c) of the Port Management Act 1995 (Vic). Note a reference to a port user in the Act has the different meaning of a user of the Port of Melbourne land and/or waters. Within this inquiry report, references to port users are consistent with the definition in the pricing order, unless otherwise specified. Port users can include international and domestic shipping lines carrying cargo to and from Melbourne through Port Phillip Bay, stevedores that access and use wharf infrastructure to handle cargo for shipping lines, transport providers, cargo owners and freight forwarders.

²⁰⁷ [REDACTED]

typically runs its events early in the calendar year with different user groups and in a variety of locations such as Tasmania, regional New South Wales, and Sydney.

12.1.2. Port Development Strategy

Every five years, the Port is required to develop a 30-year plan as part of its Port Development Strategy under the PMA.²⁰⁸ The Port engaged for over two years on areas such as infrastructure to accommodate larger container vessels, its strategy to move cargo from road to rail and options to support expected trade growth.

12.1.3. Rail Access Strategy and Port Rail Transformation Project

The Port's rail program primarily comprises of the Rail Access Strategy, the Port Rail Shuttle Network, and the Port Rail Transformation Project. These projects aim to establish a strategic framework, shift freight from road towards rail and improve the rail network at the Port of Melbourne respectively.

12.1.4. Big Ships Strategy

The Port suggests it faces increasing demand for container vessels larger than the Port's design standard to access berths in the Port of Melbourne. The Port's program initially involved vessel simulations to test how a range of larger vessels could manoeuvre in Port Phillip Bay and up the Yarra River. The Port also undertook dredging to improve channel and berth access, invested in upgrades of mooring infrastructure and wharves at Swanson Dock East and West berths, and also at Webb Dock East berths 4 and 5. A future proposal is to extend the length of the berths at Webb Dock East.

12.2. Our views on compliance

We note that the terms 'consultation' and 'engagement' are often used interchangeably. Within our assessment we have used consult, and its derivations, to mean engagement that seeks feedback but that does not seek to collaborate with the participants in the decision-making. Our assessment of whether the Port has effectively consulted is guided by four questions:²⁰⁹

²⁰⁸ You can find the Port's final Port Development Strategy 2050 and consultation summary report on its website www.portofmelbourne.com/facilities-development/port-development-strategy/, last accessed 22 December 2021.

²⁰⁹ Essential Services Commission, Statement of Regulatory Approach – version 2.0, April 2020, p.15.

1. Has the Port's form of engagement been tailored to suit the topic on which it seeks to engage?
2. Has the Port provided port users with appropriate information outlining the purpose, form and the content of the engagement?
3. Has the Port provided port users with a reasonable opportunity to participate?
4. Does the Port's engagement program give priority to matters that could have a significant impact on port users?

We have also assessed whether the Port had regard to port users' comments.

In reaching our findings, we had regard to the Port's tariff compliance statements, its response to our draft inquiry report, and the documents (over 1,200) it provided in response to our information notice issued under section 56 of the PMA.²¹⁰

In addition, we had regard to all stakeholder submissions in our assessment.^{211,212} We advised port users and other stakeholders who attended our one-on-one information sessions to provide us with substantive evidence to support their views on the Port's compliance over the review period. We validated issues raised in confidential submissions with the documents provided by the Port.

Clause 7.1.2(d) of the pricing order only requires the Port to effectively consult and have regard to comments provided by port users. Our inquiry received strong interest and submissions from several bodies that are not port users, including the Maritime Union of Australia, Shipping Australia and the Freight & Trade alliance. These bodies do not request or receive prescribed services from the Port, but they represent their members who may be port users.

On 16 September 2021, we published a summary of our public engagement process and a summary of key matters raised by stakeholders in public and confidential submissions, to which the Port responded. We provided our draft inquiry report to the Port for comment, which outlined

²¹⁰ Note, we sought additional information from the Port by issuing a notice under section 56 of the Port Management Act 1995 (Vic) to help inform our five-yearly review where we found insufficient information in the tariff compliance statements. [REDACTED]

[REDACTED] The Port also provided additional information in response to our draft inquiry report.

²¹¹ Patrick Terminals, Quantem, Shipping Australia Limited and the Maritime Union of Australia raised engagement-related concerns and provided some or substantive evidence to support their feedback. Two submissions, provided on a confidential basis, also raised concerns. A submission from Butler Freight Services and an anonymous submission commented that the Port's engagement over the review period has been satisfactory, however lacked evidence to support these claims.

²¹² Appendix 7 lists the submissions we received. You can view public submissions and our engagement summary on our website: www.esc.vic.gov.au/transport/port-melbourne/port-melbourne-compliance-pricing-regulations/inquiry-port-melbourne-compliance-pricing-order-2021.

12. Consultation with port users

our findings and the key matters raised in public and confidential submissions. We have had regard to the Port's response in preparing this final report.

12.2.1. Content of tariff compliance statements

We consider that each of the Port's tariff compliance statements contain sufficient information on its engagement processes that have informed each statement. However, we found in some years that the Port's statements did not demonstrate the Port effectively consulted and only partially demonstrated that the Port had regard to the comments of port users. We explain our findings on the pricing order's content requirements for the Port's five tariff compliance statements in Appendix 5. In summary, we consider the content of the Port's tariff compliance statements was compliant with 7.1.2(d) in 2017-18, 2018-19 and 2019-20, which reflects the Port's transition period to the new regulatory regime and the early stages of its engagement programs.

The following sections discuss our assessment of whether the Port did effectively consult and have regard to port users' comments during the review period, which is distinct from the content in the tariff compliance statements.

12.2.2. Engagement for the 2017-18 tariff compliance statement

The 2017-18 tariff compliance statement covers the Rail Access Strategy and industry update engagement programs. We acknowledge that the port lease transaction only occurred on 1 November 2016. The Port had limited time to setup and conduct engagement activities before it submitted this first tariff compliance statement under the pricing order at the end of May 2017.

We consider that the Port consulted with port users on the new pricing order and informed stakeholders about the various projects underway at the Port.²¹³

After reviewing the information provided, we found the Port's form of engagement in the way of presentations, emails and face-to-face meetings was tailored to suit topics with a significant impact on port users during this transition year. We consider the Port's number and type of engagement activities undertaken provided reasonable opportunities for port users to participate on issues relevant for this initial year of the regulatory regime. We found the Port's information paper on the 2017-18 reference tariff schedule demonstrates the Port provided appropriate information for its

²¹³ Consultation events included general forums, alongside targeted and blending meetings with port users, government, industry groups, shipping lines and other key stakeholders.

scope of consultation with port users.²¹⁴ We also saw evidence of the comments the Port received from its consultation activities on the reference tariff schedule.

On balance, we conclude that the Port has effectively consulted and had regard to port user's comments. Our view is we consider the Port's 2017-18 tariff compliance statement has complied with clause 7.2.1(d).

12.2.3. Engagement for the 2018-19 tariff compliance statement

The 2018-19 tariff compliance statement covers the Port Development Strategy, Big Ships, Rail Access Strategy, and industry update engagement programs.

Our review of other business records found evidence of:

- The Port tailoring its form of engagement across each of its engagement programs, using a combination of written material, briefing sessions and workshops depending on the topic and audience.
- The programs giving priority to matters of significant impact for port users including calculation of current and future prices, simulations for larger container ship sizes for Webb Dock East and Swanson Docks East and West (with port users and Ports Victoria), and the Port Rail Shuttle Network concept development.
- A reasonable opportunity for port users to participate across all of its programs due to the Port upgrading its website information, releasing further information materials, conducting workshops, forums and conferences, and issuing feedback surveys.
- Information presented to stakeholders in industry updates were largely high-level explanations of concepts and initial consultation on the early-stage Big Ship program, Port Development Strategy, Rail Access Strategy and other capital planning.

We also consider the Port's tariff compliance statement and other business records demonstrate the Port had regard to port user comments. We found the Port acknowledged the issues raised by stakeholders, responded to them, and committed to further engagement on issues important to stakeholders, including the scope and timing of significant new investment and efficient cost recovery.²¹⁵

²¹⁴ The Port's information paper on the 2017-18 reference tariff schedule explained the new regulatory regime compared to the previous pricing framework and showed the Port's 2017-18 pricing proposal was in line with the pricing order for the first year it would set tariffs.

²¹⁵ Port of Melbourne, '2018-2019 Tariff Compliance Statement Appendix E', May 2018, pp.6-10.

Overall, our view is that the Port's 2018-19 tariff compliance statement has complied with clause 7.2.1(d). We consider the Port has effectively consulted and there is information in the business records provided to us on how the Port has had regard to the comments of port users.

12.2.4. Engagement for the 2019-20 tariff compliance statement

The 2019-20 tariff compliance statement covers the Port Development Strategy, Port Rail Transformation Project, the Rail Access Strategy engagement programs, and industry update engagement plans.

We reviewed the tariff compliance statement and other documentation provided by the Port which stated that it largely engaged on matters of significant impact for port users and other stakeholders within its key programs. Feedback received during the industry updates show port users placed importance on tariffs, depreciation, big ships and capacity, and planning for the future.²¹⁶ However, we found the Port did not give priority to its deferred depreciation approach and the future impact on port users in its industry update program.²¹⁷

Our assessment found evidence that:

- The Port did tailor their engagement to suit the needs of stakeholders. Engagement across the programs came in the form of meetings, workshops, briefings and email alerts. In addition, the Port held over 40 briefings during its consultation period for the Port Development Strategy and contacted more than 100 stakeholders via email regarding submissions. We could also see evidence for the Big Ships program that the Port responded to learnings/feedback to change the scope of the program.
- The Port has provided documentation that indicates it did provide appropriate information to port users and other stakeholders, such as its presentation on the Rail Access Strategy.²¹⁸ We note

²¹⁶ [REDACTED]

²¹⁷ Since our commentary on the Port's 2017-18 tariff compliance statement, we raised concerns about the potential for the Port's deferred depreciation approach to result in higher tariffs for port users in the future. Essential Services Commission, 2017-18 Port of Melbourne tariff compliance statement: Interim commentary, 9 November 2017, p.5.

Consultation in this and prior years was prompted by brief statements within industry update presentations.

²¹⁸ [REDACTED]

the industry update and its Big Ships program were more high level. However, there was limited information around the changing timeframes of the Port Development Strategy.²¹⁹

- Stakeholders were provided with the opportunity to give feedback, with the Port Development Strategy consultation period running for four weeks (12 November 2019 to 6 December 2019). This was part of a larger program that ran from February 2019 to March 2020. Meetings were usually around the Port and local community, but the Port also hosted events interstate and in regional areas.

After examining the Port’s additional information to support its tariff compliance statement, we found the Port did have regard to stakeholder’s feedback on the key projects.²²⁰ Evidence of the Port having regard to stakeholder feedback is also seen in meeting minutes, feedback summaries, and decision papers for the tariff compliance statement. Between November 2018 and March 2019, key stakeholders submitted letters in support of the Port Rail Transformation Project proposal to the Victorian Government.

Our view is that the Port effectively consulted and had regard to port user comments for its 2019-20 tariff compliance statement, as required by clause 7.1.2(d).

12.2.5. Engagement for the 2020-21 tariff compliance statement

The 2020-21 tariff compliance statement covers the Port Development Strategy, Port Rail Transformation Project, and industry update engagement programs.

We reviewed the sources for the Port’s stakeholder engagement summary report and consider that port users and other stakeholders were consulted on matters of impact and importance to them for its rail projects and strategies.²²¹ We can also see evidence the Port consulted on areas of significant impact on its port users and other stakeholders during its industry updates.²²²

²¹⁹ Providing updated project timelines ensures port users are informed of project milestones so they know when and how they will be engaged. Port users can use these milestones to prepare for consultation opportunities before the finalisation of the strategy. [REDACTED]

²²⁰ [REDACTED]

²²¹ Port of Melbourne, ‘2020-21 tariff compliance statement – Appendix I: Port User and other stakeholder consultation’, May 2020.

²²² [REDACTED]

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We examined evidence and found that the Port provided a reasonable opportunity for port users and other stakeholders to provide feedback, particularly through the consultation period for the Port Development Strategy. However, we found lack of transparency around the changing timeframes for the Port's decision making, both in terms of why the overall strategy timeframe for developing the Strategy was extended and whether stakeholders were notified of the reasons for the changes or if they could further contribute.²²³

The Port expanded its industry updates to cover other key engagement programs and topics such as the length of regulatory period. However, we found the Port did not provide appropriate information to port users and other stakeholders for consultation on significant issues in its industry updates. Issues such as the Port Development Strategy, service standards and deferred depreciation, that could have a significant impact on prices charged to port users in the future, were covered without providing sufficient detail and without a clear indication of how comments would influence the Port's decisions.²²⁴

The Port did not sufficiently demonstrate that it had regard to stakeholders' feedback between the releases of the draft and final Port Development Strategy.

We acknowledge that the Port's consultation summary and other evidence show the Port did respond directly to stakeholder submissions.²²⁵ However, the Port did not provide evidence that it had regard to or meaningfully considered port users' comments for its final decision on the Port Development Strategy. We consider 'had regard to' means the Port must demonstrate 'the product of consultation must be conscientiously taken into account when the ultimate decision is taken'.²²⁶

Overall, we find that the Port has not complied with the obligation in clause 7.2.1(d) to effectively consult and have regard to the comments provided by port users. We have not found robust

²²³ Initially, the Port Development Strategy was scheduled to be completed by December 2018. The Port then recommenced consultation on the draft Port Development Strategy which closed on 6 December 2019 and the final strategy was released in October 2020.

²²⁴ Refer to Port of Melbourne, '2020-21 tariff compliance statement – Appendix J: 2020 TCS presentation', March 2020, slide 25. [REDACTED]

²²⁵ Stakeholder feedback was responded to in letters sent by the Port. For example, the letters set out reasoning as to why the Port disagreed with a suggestion, or information about what the Port intended to do to address the issues raised on a broader scale. [REDACTED] The Port only sent some of its letters in December 2020.

²²⁶ Refer to paragraph 43 of the legal advice provided to the commission by Peter Hanks QC and Catherine Dermody in Appendix 9.

12. Consultation with port users

evidence that indicates the Port had regard to port user feedback sought during its consultation processes. Although port users and other stakeholders were provided a reasonable opportunity to participate in consultation on matters of high impact and complexity, we consider the Port has not provided them with appropriate information to provide informed feedback.

12.2.6. Engagement for the 2021-22 tariff compliance statement

We are required under clause 7.1.2(d) of the pricing order to review the Port's consultation that informed the 2021-22 tariff compliance statement as the consultation process occurred within the review period.²²⁷ The 2021-22 tariff compliance statement covers the industry update program and 2021-22 rebalancing application for the Big Ships strategy. It also draws on prior engagement for the Port Development Strategy, Rail Access Strategy, and the Port Rail Transformation Project.

The industry update program was a step change from prior years, notably the Port engaged an external advisor for their consultation. We found evidence the Port expanded the scope of its engagement, used different techniques, increased the level of detail provided, had follow-up interactions when requested and improved the clarity on where it thought port users could influence decisions.²²⁸ In its industry updates and Port Development Strategy consultation, we consider that the Port's form of engagement for some elements of the Big Ships program was tailored to suit the engagement topics.

The Port focused some of its engagement on matters that have a significant impact on port users, including the length of regulatory period and deferred depreciation as part of its industry updates program.²²⁹

However, during the Port's consultation for its 2021-22 tariff rebalancing application, it did not consult port users on the prudence and efficiency of future investments for its Big Ships Strategy, which forms part of the basis of the Port's proposed tariffs.²³⁰ We note, after feedback from port

²²⁷ Refer to the legal advice provided to the commission by Peter Hanks QC and Catherine Dermody in Appendix 9.

²²⁸ The Port also demonstrated that it tried to understand needs and interests of port users in advance of meetings so it could tailor its approach. The Port provided examples of emails sent in advance of meetings, responses to survey questions, the discussion and surveys during the events. Submissions from the Port and its Shareholder Group state that the Port's approach to consultation has evolved over time to enhance project planning outcomes and that the 2021-22 tariff compliance statement reflects best practise engagement in line with the guidance provided in our annual commentaries.

²²⁹ [REDACTED] This engagement showed that port users found the topics engaged in the industry updates to be of interest and importance to them.

²³⁰ The Port's 2021-2022 consultation draft for its tariff rebalancing application stated: 'The Tariff Rebalancing Application is not the process in which the [commission] assesses [the Port's] efficient allowable aggregate revenue requirement. That process, which includes review of [the Port's] investments for prudence and efficiency, is separately administered

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users on the lack of thorough consultation with them, the Port withdrew its tariff rebalancing application to provide further opportunities for port users and other stakeholders to outline their views.

Accordingly, we consider the Port did not give priority to its Big Ships Strategy capital program during its consultation for the 2021-22 tariff rebalancing application. Stakeholder submissions provided to the Port on its consultation for its rebalancing application and the submissions we received on the Port's rebalancing application presented to us support our finding.

We found the Port did not provide a reasonable opportunity for port users to participate in its engagement for the 2021-22 extension of Webb Dock East and its deferred depreciation approach.²³¹ Although port users were involved in the development of the Port Development Strategy, we found that several affected port users were consulted using brief statements prior to the Port's decision to work towards the construction of the Webb Dock East extension into 2021-22.²³²

We consider the Port should have reasonably consulted on the 2021-22 construction timing because it has a significant impact on many port users and the port as a whole. We acknowledge the Port did consult in April 2021 on timing and drivers for the planned 2021-22 construction of the Webb Dock East project, but the project solution was no longer in a formative stage.²³³ Hence, not all stakeholders were consulted equally in planning when the Webb Dock East project should commence, even though the project has a significant impact on many port users.

through the annual tariff compliance statement and five-yearly [commission] reviews of [the Port's] compliance with the pricing order'.

²³¹ The Port illustrated depreciation recovery options in 2021 to provide more context to port users, and one consultation question looked for confirmation that the Port should seek to minimise price shocks. However, clause 4.4.2 of the pricing order already requires the Port to reduce price variation if it adopts an alternative depreciation methodology.

²³² [REDACTED] The Port's draft Port Development Strategy from November 2019 indicates the Webb Dock East extension as one of 10 projects to be delivered by 2035. [REDACTED] The final Port Development Strategy released in October 2020 stated the Webb Dock East extension project would be one of 10 projects delivered by 2035 and was not marked as 'in progress' like some other projects on p. 51.

²³³ While the Port's April 2021 industry update program used a range of engagement techniques (including polling during the workshop and a follow-up questionnaire to source feedback at a time before the Port reached a decision), stakeholders told us they were not consulted in a timely manner relative to the schedule of the project.

[REDACTED]

12. Consultation with port users

We found evidence that the Port did not provide port users and other stakeholders with appropriate information, particularly in its consultation on its rebalancing application and deferred depreciation.²³⁴ The Port did not appropriately present complex information relevant to the pricing impact the rebalancing may have on port users.²³⁵ We consider the Port did not provide sufficient information to explain the future tariff impacts for port users even though port users and other stakeholders requested additional information. As a result, port users could not make informed contributions to the Port's consultation.

We note that during the April 2021 industry updates program, the Port increased the level of detail presented to port users and improved the clarity on where it thought port users could influence decisions. Feedback from port users show the content was largely appropriate for their needs.

Our assessment across the four guiding questions (see section 12.2) concludes that the Port has not effectively consulted for its 2021-22 tariff compliance statement.

We consider the Port did not have regard to all port users' comments in its 2020 decision to bring forward the construction of the Webb Dock East extension in 2021-22 prior to its tariff rebalancing application consultation. Given not all port users were consulted prior to the Port's decision, the Port did not have regard to the views of all impacted port users.²³⁶ Similarly, the Port only consulted on tariffs in its rebalancing application. The Port did not demonstrate it had considered port users and other stakeholder concerns with capital program underpinning its Big Ships Strategy.²³⁷ We acknowledge that the Port consulted port users on the 2021-22 construction of the Webb Dock East extension during April 2021, and also considered port users views in its May

²³⁴ In its final industry update during the review period (April 2021), the Port consulted on the importance of deferred depreciation for port users and options for cost recovery after the tariffs adjustment limit period ends [REDACTED]

²³⁵ [REDACTED]

²³⁶ [REDACTED]

²³⁷ The final tariff rebalancing application did not include evidence of the prudence and efficiency of the proposed expenditure. [REDACTED]

12. Consultation with port users

2021 decision to include forecast expenditure for the project in its 2021-22 tariff compliance statement.²³⁸

We have not assessed the Port's July 2021 decision to proceed with 2021-22 construction of the Webb Dock East extension project, because the decision and associated documents are outside the scope of our inquiry.

Our view is that the Port has not complied with clause 7.2.1(d), because the Port did not effectively consult or have regard to port user views.

12.3. Our view on the manner of the Port's non-compliance

Our view is that the Port's non-compliances in the 2020-21 and 2021-22 tariff compliance statement consultation was in a sustained manner. We consider that by this stage the Port had completed its transition phase, where it had established consultation processes as part of its four key engagement programs and other consultation areas.²³⁹

Over the last two years, the Port's consultation did not provide port users with appropriate information to enable them to make meaningful contributions. In addition, the Port did not have regard to some port user comments in these two years. Port users were also excluded from opportunities to be consulted on matters of significant impact notably for Webb Dock East.

Our view is that the Port's 2020-21 and 2021-22 non-compliances were also in a significant manner in terms of the reputation of the regulatory regime and risks inefficient costs being incurred by the Port, its users and other stakeholders:

- We found the Port's ineffective consultation practices triggered concerns from port users and other stakeholders.²⁴⁰ We observed a lack of stakeholder confidence in the integrity of the

²³⁸ We reviewed the Port's tariff compliance statement and found that the Port had considered the feedback of port users on operational issues, impact and benefits of competition, impacts on Victorian consumers and the timing of the investment (pp. 68-69). The Port's Appendix I further indicates this, with questions the Port intended to ask stakeholders included (pp. 19 and 21). Further consultation questions could be found in the Port's Appendix J (April 2021, slides 36 and 39). [REDACTED]

²³⁹ The Port's 2017-18 tariff compliance statement shows it was establishing its internal and external stakeholder engagement approaches. The Port also provided evidence it informed port users and other stakeholders about the new operating environment, and it was trying to understand their needs and interests. [REDACTED]

[REDACTED] In 2017-18, the Port's was largely engaging on the beginnings of its Port Development Strategy and rail projects.

²⁴⁰ Submissions from Patrick Terminals and the Maritime Union of Australia, and two confidential submissions raised concerns about the Port's consultation practices. In particular, a common theme across these submissions is that stakeholders had limited opportunity to meaningfully engage with the Port on key decisions that were of interest and importance or could have a material impact on them.

12. Consultation with port users

regulatory framework that is designed to protect the interests of port users and Victorian consumers.²⁴¹

- This lack of confidence in the Port does not promote the objectives of the Port Management Act, which as outlined earlier in our report, includes the efficient use of, and investment in, the provision of prescribed services for the long-term interests of users and Victorian consumers. That is, we find the non-compliances in consultation have a material consequence for all port users.²⁴²
- The Port's consultation informs its capital planning and nearer term infrastructure investments, which will ultimately become incurred capital costs. The Port recovers its capital costs from port users, who will seek to recover them from the broader supply chain that ends with Victorian consumers. If port users are not adequately informed and do not have an opportunity to meaningfully contribute to the Port's consultation, then the Port may not make prudent and efficient decisions for capital investments that will have a significant impact on port users.²⁴³ This impact could include inefficient investment decisions by port users and across the Port's supply chain.

²⁴¹ A public submission by Maritime Union of Australia and confidential submissions from three port users raised concerns about the Port's engagement practices particularly in relation to the Webb Dock East extension capital expenditure. They anticipate significant ramifications for competition, supply chain efficiency and ultimately the prices paid by Victorian consumers in opposition to the objectives in section 48(1)(a) and (b) of the Port Management Act 1995 (Vic).

²⁴² Capital costs of projects covered in the Port Development Strategy and the Port Rail Transformation Project.

²⁴³ The Maritime Union of Australia comments that the Webb Dock East extension project will have an adverse impact on the market share of Swanson Dock stevedores which will lead to underinvestment in landside infrastructure affecting overall port container productivity, underutilisation of on-dock rail assets and workforce redundancies. [REDACTED]

12. Consultation with port users