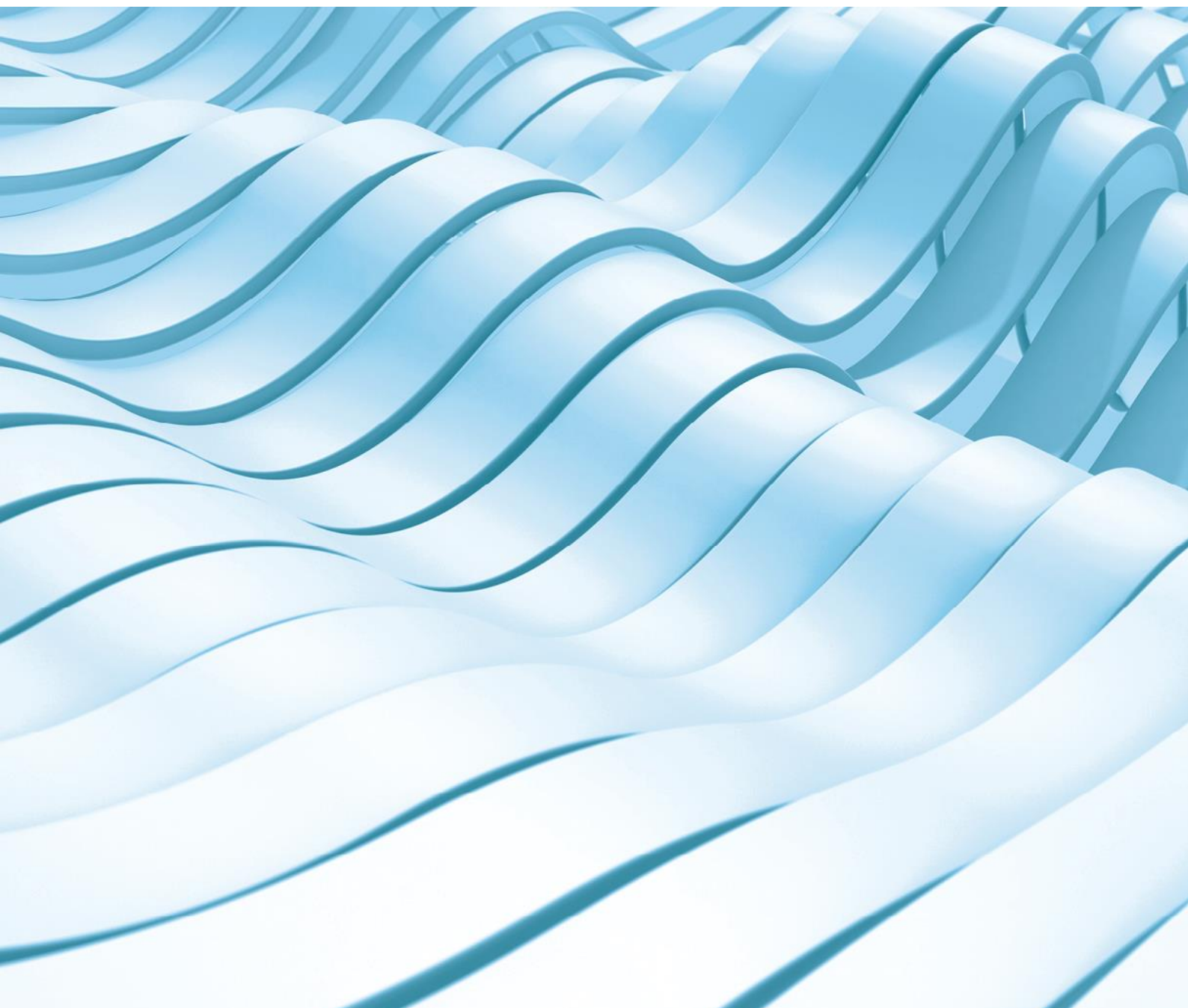




Lifting productivity at Australia's container ports: between water, wharf and warehouse

Inquiry report Overview



The Productivity Commission acknowledges the Traditional Owners of Country throughout Australia and their continuing connection to land, waters and community. We pay our respects to their Cultures, Country and Elders past and present.

The Productivity Commission

The Productivity Commission is the Australian Government's independent research and advisory body on a range of economic, social and environmental issues affecting the welfare of Australians. Its role, expressed most simply, is to help governments make better policies, in the long term interest of the Australian community.

The Commission's independence is underpinned by an Act of Parliament. Its processes and outputs are open to public scrutiny and are driven by concern for the wellbeing of the community as a whole.

Further information on the Productivity Commission can be obtained from the Commission's website (www.pc.gov.au).

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21 December 2022

The Hon Jim Chalmers MP
Treasurer
Parliament House
CANBERRA ACT 2600

Dear Treasurer

In accordance with section 11 of the *Productivity Commission Act 1998*, we have pleasure in submitting to you the Commission's final report into Australia's maritime logistics system.

Yours sincerely,

A stylized, handwritten signature in black ink, consisting of several overlapping loops and a long horizontal stroke.

Stephen King
Presiding Commissioner

A handwritten signature in black ink, appearing to read 'Julie' followed by a long, sweeping horizontal line.

Julie Abramson
Commissioner

Acknowledgments

The Commission has used a range of information sources in preparing the report. The Commission is grateful for the contributions made by inquiry participants through their submissions and brief comments, and their participation in meetings

The Commissioners express their appreciation to the staff who worked on the inquiry report — Assistant Commissioner Lou Will, who managed the process, and other team members including Melisa Bubonya, Owen Gabbitas, Robert Janissen, Frances Lamb, Jessica Nugent, Max Oss-Emer, Mike Preston, Anuraag Roy, Nick Sladden, Phil Smith, Scott Welsford and Michael Youren. Our thanks are also extended to Athena Wicks for administrative and project support.

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See full report at www.pc.gov.au/inquiries/completed/maritime-logistics/report

Overview

Key points

- ✳ **Higher productivity at Australia's container ports is achievable and would deliver significant benefits.**
 - Considerable variation in performance both within and across Australia's container terminal operators points to potential productivity gains from more consistent (high) performance.
 - Inefficiencies at Australia's major container ports directly cost the Australian economy about \$600 million a year. Ports also have large indirect impacts on Australian businesses and consumers, so that any sustained disruptions to imports or exports magnify these costs across the economy.
 - Australia's major container ports rank poorly in work that just looks at ship turnaround times. But the international ports with the fastest turnaround times have considerably more capital than they need to efficiently handle current throughput. Use of more capital in Australia would reduce ship turnaround times but raise costs; the outcome would not necessarily be efficient. Faster turnaround times are good, but not at any cost.
- ✳ **Infrastructure needs in the maritime logistics system are being addressed.**
 - Container port operators are investing to accommodate bigger ships, as are operators in other parts of the marine logistics system. There is no need for government intervention to encourage the use of bigger ships.
 - Plans are in place to increase the share of freight moving to and from most major container ports by rail over the coming decades. Any further government investment needs clear cost–benefit assessment.
 - All state governments have freight and transport strategies that cover future port infrastructure needs. Evidence does not suggest that more plans are required or existing plans will not be implemented.
- ✳ **The adoption of technology at Australia's container ports is broadly in line with international practice.**
- ✳ **Workplace arrangements lower productivity — incremental changes to the Fair Work Act are needed.**
 - Disruptions during recent enterprise bargaining imposed large costs on businesses dependent on maritime freight. The Government has amended the Fair Work Act to seek to limit intractable bargaining, but more effective remedies are needed to reduce industrial action that harms consumers, importers and exporters.
 - Limits should be placed on clauses in container terminal operators' enterprise agreements that are highly restrictive and constrain the ways that workers and equipment can be deployed.
- ✳ **Lack of competition in some parts of the maritime logistics system means consumers pay too much.**
 - Transport operators have no choice about which terminal they use when picking up or dropping off a container, so must pay whatever price a terminal operator sets. Recent rapid increases in terminal access charges (TACs) have flowed through to cargo owners (and consumers). Voluntary protocols to address terminal operators' abuse of market power should be strengthened.
 - Transport operators and cargo owners are paying fees to shipping lines for the late return of containers even where the delay is because empty container parks are full. The exemption for shipping contracts, which means that these fees fall outside the scope of the Australian consumer law, should be removed.
- ✳ **Concerns about domestic shipping capacity and training can be met through modest measures.**
 - The resilience of Australia's maritime supply chain could be improved by reforms to coastal shipping and repealing Part X of the Competition and Consumer Act.
 - Australian-flagged vessels are not a prerequisite to meeting maritime skill requirements. If skills shortages were to occur, these are best addressed by cadetships and skilled migration.

International trade underpins Australia's economy (box 1), and most goods move by sea. This translates into significant maritime freight activity, and the steady growth recorded in total freight volumes over the past decade is forecast to continue.

Any inefficiencies in the maritime logistics system — the many services involved in getting goods off ships and into the domestic distribution chain (and vice versa) — have the potential to echo through the economy.

Box 1 – Some key trade facts

Looking at Australia's international goods trade:

- imports equate to about 16 per cent of GDP; exports make up about 20 per cent
- shipping accounts for 99 per cent of this trade by volume
- in 2018-19:
 - just over 6000 cargo ships made about 34 000 calls to Australia
 - ports handled 1.7 billion tonnes of freight including 5.1 million containers
 - cargo moved was worth close to \$573 billion
- by 2050 the containerised freight task is forecast to more than triple at the Port of Brisbane, nearly triple at the Port of Melbourne and increase by two and a half times at Port Botany in Sydney.

Recent events have put pressure on the maritime logistics system

The onset of the COVID-19 pandemic had different impacts on different types of cargo. Some Australian bulk commodities, such as iron ore, gas and grain faced port and shipping disruptions during initial lockdowns. However, these supply chains quickly recovered, in some cases going on to move record export volumes.

In contrast, cargo owners who were reliant on container shipping services faced major problems.

On the demand side, an increase in consumer spending on household goods (for example, desks and computing equipment), and in online shopping, along with the loss of air freight capacity on passenger flights, pushed up demand for in-bound services. On the supply side, COVID-induced port shutdowns around the world and congestion at ports significantly disrupted global container shipping services.

The combination of increased demand and disrupted supply led to a substantial increase in the price of container shipping services, disrupted shipping schedules and extended shipping times. At some Australian ports, these broader disruptions were reinforced by protected industrial action that impeded container terminal operations and, in some cases, led to ships by-passing ports.

These pandemic-induced disruptions highlighted a range of long-term performance issues in the Australian maritime logistics system, particularly for the movement of containerised freight.

For example: a May 2021 release of a World Bank report ranked the efficiency of most of Australia's container ports in the bottom 20 per cent of 351 international ports; a November 2021 report from the Australian Competition and Consumer Commission (ACCC) described significant performance issues at Australia's container ports; and a report by Victoria's Essential Services Commission raised issues of market power at the Port of Melbourne.

In December 2021, the Australian Government asked the Productivity Commission to examine long-term factors affecting the productivity, efficiency and dependability of the Australian maritime logistics system and

to identify mechanisms to address any issues found. This report sets out the Commission's advice against its terms of reference.

Where is the inquiry focusing?

Cargos fall into three broad types — containerised, bulk and break bulk (figure 1).

Figure 1 – Cargo types handled within the maritime logistics system

Cargo type	Sub-type	Typical commodities	
Containerised	General	General	
	Refrigerated	Produce / frozen goods	
	Food grade	Milk powder / grains	
	CWO ^a (B grade)	Scrap / timber / hides	
	Hazardous	Chemicals	
	Tank	Wine	
	Out of gauge	Earthmoving tyres	
Non-containerised	Bulk	Dry bulk	Iron ore
			Coal
			Grains and legumes
			Cement
	Liquid bulk		Refined petroleum
			Crude oil
			Chemicals
	Break bulk	Roll on roll off (RORO)	Cars / rolling machinery
		Project cargo	Wind turbines
		General	Any-non bulk or non-containerised cargo (steel, timber, machinery)
		Multi purpose	Break bulk and containers (Islander trades ^b)

a. Cargo worthy (CWO) container approved for international shipping. b. Shipping services calling at small island or remote ports with mixed cargos, usually on variable schedule frequencies (for example, between 10–21 days).

Each cargo type involves different commodities, types of vessel and port infrastructure, and stevedoring and transport services. Containerised cargos, for example, are mostly goods that can be boxed up. Vessels are

purpose built with holds divided into 'cells' to keep containers fast. In port, quay cranes move containers between ships and shore and straddle carriers or stacking cranes move them to dock storage areas and then to trucks and trains. In contrast, dry bulk cargos are loaded directly into bulk carriers' holds using conveyors connected to silos or stockpiles, while liquid bulk cargos are shipped in tankers, pumped out of holds into storage tanks and piped or trucked via tanker out of ports.

When asked to nominate issues in Australia's maritime logistics system, inquiry participants overwhelmingly pointed to problems in container shipping. Consequently, that is where the inquiry has focused, and maritime logistics chains incorporating the five largest container ports — Brisbane, Sydney (Botany), Melbourne, Adelaide and Fremantle — have received most attention. Ports that handle very small container volumes including Townsville, Darwin and Bell Bay are not a focus. Broader issues associated with the domestic distribution of freight are outside the scope of this inquiry.

An overview of the maritime logistics system

The system is bounded by the point where a vessel enters or departs Australian territorial waters and the point where its cargo is transferred to or from the domestic logistics system.

Cargo progresses through three principal fields of activity (figure 2) — marineside, quayside and landside operations. Import and export cargo flows mirror each other, except for border control practices.

A range of parties provides services (figure 3). Focusing on containerised imports for brevity, shipping lines carry containers, and stevedores at container terminals unload vessels. Australian Government border protection and biosecurity officers monitor cargos. Containers are transferred to landside transport operators (road or rail) who move them to their final destinations or to warehouses for unpacking and cargo distribution.

A number of other parties do not directly handle cargo but are also integral to service provision. For example, port operators provide infrastructure like channels and wharfs, and pilots board vessels when they arrive in port waters and steer them through local shipping channels towards berths. Tugs move vessels into position and linesmen secure them to wharves. Unpacked containers are stored in empty-container parks (ECPs).

Underpinning these services is a range of industry and government institutions and frameworks which govern how the parties interact and the industry is regulated. For example, state governments own the major container ports and, apart from Fremantle, lease them to private operators. And the Australian Government is responsible, for example, for workplace relations regulation.

Demand for container logistics services is driven by the decisions of an estimated 200 000 Australian cargo owners. These decisions are enacted through a chain of contracts, agreements and international conventions that lay out commitments between cargo buyers and sellers and transportation providers.

Negotiating and documenting these commitments requires specialist expertise. Many cargo owners employ forwarding and customs agents to act on their behalf. These agents also deliver economies of scale by consolidating the requirements of multiple cargo owners.

Why productivity, efficiency and dependability?

Productivity growth has been one of the primary drivers of increasing living standards for Australians. Put simply, the more goods and services a society can produce with a given set of inputs, the greater will be its material standard of living.

Figure 2 – Cargo move through three fields of operations

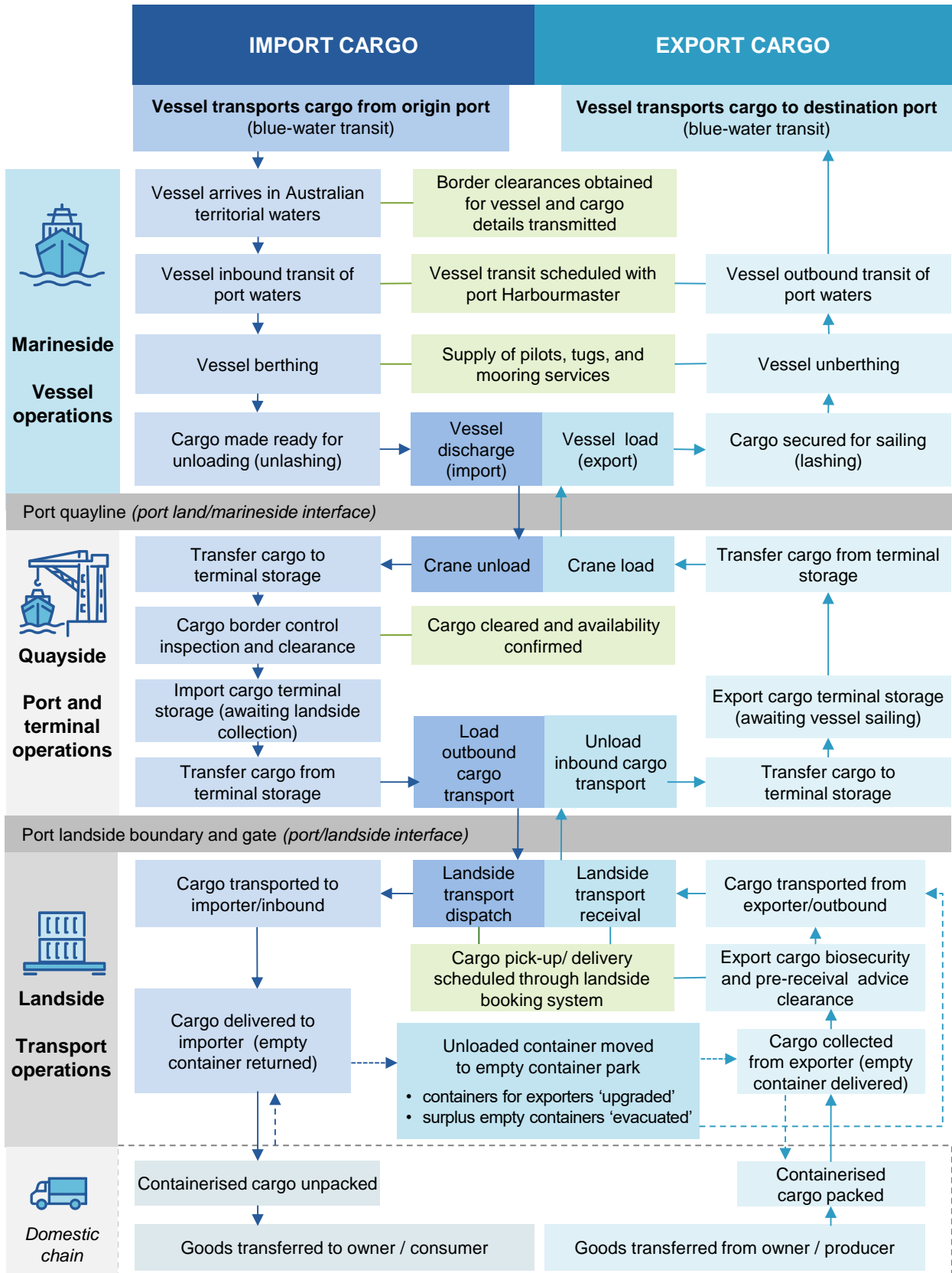
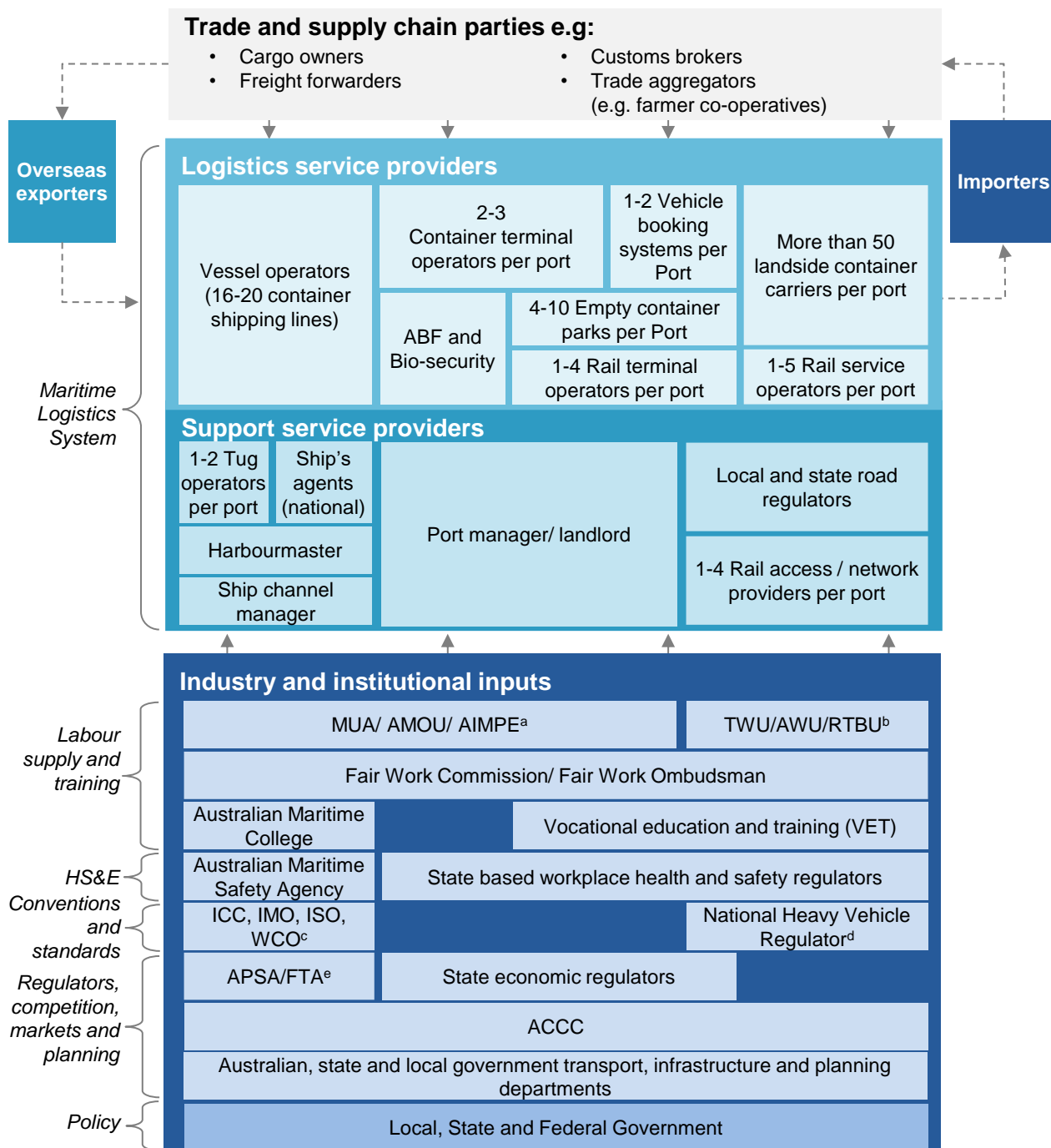


Figure 3 – Many parties make up Australia’s maritime logistics system



a. Maritime unions: MUA (Maritime Union of Australia), AMOU (Australian Maritime Officers Union), AIMPE (Australian Institute of Marine and Power Engineers) **b.** Domestic logistics industry unions: TWU (Transport Workers Union), AWU (Australian Workers Union), RTBU (Rail, Tram and Bus Union) **c.** International standards and policy organisations: IMO (International Maritime Organisation), ISO (International Standards Organisation), WCO (World Customs Organisation) **d.** Road vehicle regulation — encompassing licencing, compliance and performance based standards for heavy vehicles. **e.** Peak cargo industry bodies: APSA (Australian Peak Shippers Association), FTA (Freight Trade Alliance).

But just producing more with a given set of inputs will not make Australians as well off as they could be if those outputs could be produced with a less costly input mix or are not the things that the community values most highly, or if opportunities to innovate in production processes are unnecessarily impeded. For example,

restrictions on how workers are deployed by a business might mean that the costs of producing a service are higher than they need to be. Constraints on competition might mean that businesses produce products that could be better supplied by rivals. And limitations on automation might mean that a company settles on an input mix that is higher cost than it needs to be. In other words, overall economic efficiency also matters.

Moreover, when businesses enter contracts and plan production accordingly, they do so based on expectations about the future availability and prices of the inputs they will need. If unanticipated disruptions or shocks within input markets mean those expectations are not met (that is, markets are not dependable or reliable), businesses will likely face higher costs and lower profitability than expected. Ultimately the broader community bears these costs — through price rises and / or temporary shortages of supply. A resilient and dependable system can plan for and minimise the costs of disruptions, benefiting both producers and consumers.

What drives productivity, overall economic efficiency and dependability?

Many factors contribute to productivity growth including:

- change at a business level — for example, the creation or adoption of new technologies or improvements in management practices and work arrangements
- economic factors that condition business decisions — for example, competition within a market can spur businesses to innovate
- policy and institutional settings — for example, government policies that influence investments in skills and infrastructure.

Gains in overall economic efficiency are driven by initiatives that enable resources to flow to their highest value (or highest net benefit) uses. Examples include the: sharing of data to enable participants in a supply chain to better plan their operations; removal of practices that create 'closed shops' for workers or cartels for businesses; and development of single window portals that remove duplication in business reporting to government.

Clearly, the decisions of private businesses are central to productivity and efficiency performance. They are key agents in what is produced with an economy's resources and innovation on their part spurs productivity growth and efficiency improvements.

But governments can also foster productivity growth and overall economic efficiency in a host of ways, for example, via: working to ensure government services are provided as efficiently as possible; regulating to promote competitive outcomes (or limit harm where parties hold market power); implementing labour relations laws that balance employer and employee interests; investing in essential infrastructure; and using taxpayer funds only on projects that deliver the highest net benefits to the community.

Dependability or resilience can be enhanced by actions like:

- requiring suppliers to give advance warning of price changes, to enable customer businesses to factor them into their planning and future contracts
- limiting disruptions to service provision where possible
- planning and provisioning to cope with shocks.

Again, the actions of private parties are integral to service dependability, but governments can also play important roles.

Consistent with these drivers of productivity, overall economic efficiency and dependability, this report examines:

- what is happening at a business level (focusing on use of new technologies and workplace arrangements)
- the state of competition across the system

- skills and infrastructure needs and constraints.

Discussion of ways in which governments might support improvements in container supply chain productivity, overall economic efficiency and dependability cuts across the report. Before heading into that analysis, the report assesses the performance of Australia's container ports.

How well are Australia's container ports performing?

Well-functioning container ports enable goods to enter Australia faster than otherwise and reduce the cost of these imports. Similarly, they enable Australian exporters to compete more effectively on global markets.

Efficient ports minimise the time taken for containers to pass through the port and the time that ships and land transport spend within the port, while ensuring that inputs are used as effectively as possible. Ports that move containers more quickly, reliably and in a cost-effective manner are better performers than those that do not.

Data gaps limit assessment of port performance

A comprehensive framework for measuring port performance would include data on the time taken to move containers through each of the steps involved in marineside, quayside and landside operations (figure 2). Comparison of these time-based metrics across ports would then reveal where operations in a port may be relatively inefficient. Other performance measures could then be used to understand *why* these performance differences exist. For example, analysis of the rates at which cranes move containers can shed light on quayside operation times: more productive use of cranes should result in faster container movement times.

Public domain data collections do not support comprehensive analysis of this type. Data is missing for a number of areas of port performance, including, for example, labour inputs (the number and type of workers and the hours they work), cargo operation times (the time spent loading and unloading a ship while it is at berth), and container dwell times (the time containers spend in port after being discharged from a ship until loading onto land transport, in the case of imports).

While performance information could be improved by linking existing data collections and, potentially, augmenting them, collecting, cleaning and maintaining data is not costless. Richer data would support richer insights into port performance, but it is unclear if the associated benefits would outweigh the potential costs inherent in extending existing collections.

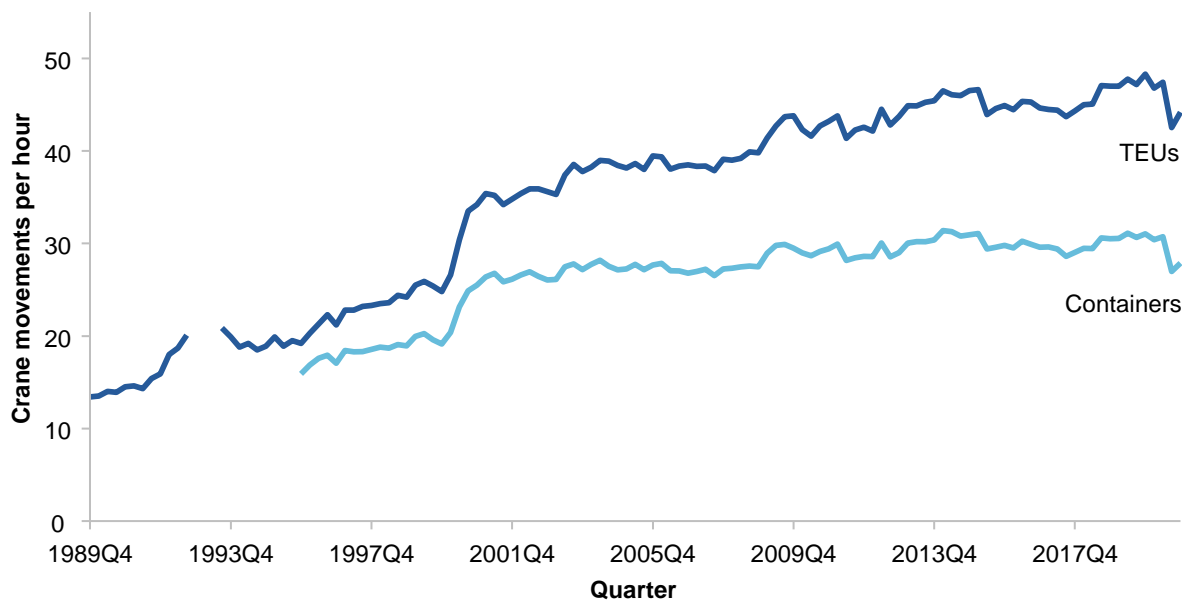
The Commission has used a combination of Australian collections and IHS Markit's Port Performance Program and Ports Characteristics data to benchmark Australian container ports' operations and to unpack the determinants of relative performance as far as the data permits. Lengthy time series are scant. Most of the analysis, therefore, focuses on recent performance. Given the disruptions to container shipping markets wrought by the COVID-19 pandemic, data from the 2019 calendar year are the primary source — this was a more representative year. Moreover, given data gaps and the diversity of port operations, performance is assessed using a range of metrics.

Data suggests productivity has risen over the long term

Measured by net crane rates (container movements per crane per hour of operation), productivity at Australia's container ports rose strongly in the 1990s, particularly following significant waterfront reforms, and continued to grow at a slow pace over the following two decades (figure 4). Growth measured in 20-foot equivalent units (TEUs) was stronger than for containers per se because of the increasing use of 40-foot

containers (which equate to two TEUs). The fact that ports are handling larger containers and the crane rate has not declined points to stronger productivity improvements in terms of the quantity of goods being moved.

Figure 4 – Long term productivity has risen in Australia's ports



Australian ports do not compare well against international peers

As mentioned above, a 2021 World Bank study benchmarked the performance of 351 container ports. The Commission used the data underlying this work in this report to look at why Australian ports apparently perform so poorly.

While this data has strengths, including reasonably rich information and coverage of a large set of international ports, it has one key drawback — data on landside operations are not included. The following assessment is, therefore, silent on how Australian ports perform in this sphere of operations. Inquiry participants have suggested that Australian ports compare well with international ports for landside operations, but there is little to no public data to support this.

In the World Bank's analysis, Australia's major container ports, except for Brisbane, ranked among the worst performing 20 per cent of ports, and Brisbane ranked in the bottom 30 per cent. Australia's ports tended to be considerably slower at turning ships around than the average international port, even though the size of ships visiting Australia and call sizes (the number of containers handled) were taken into account. This was particularly evident for medium and larger-sized vessels (those with a capacity of more than 5000 TEUs) (figure 5).

Most of the difference reflects longer operating times — Australian ports take longer to load and unload ships. Two factors are key to operating times:

- the number of cranes deployed (crane intensity)
- the productivity of those cranes (gross crane rates).

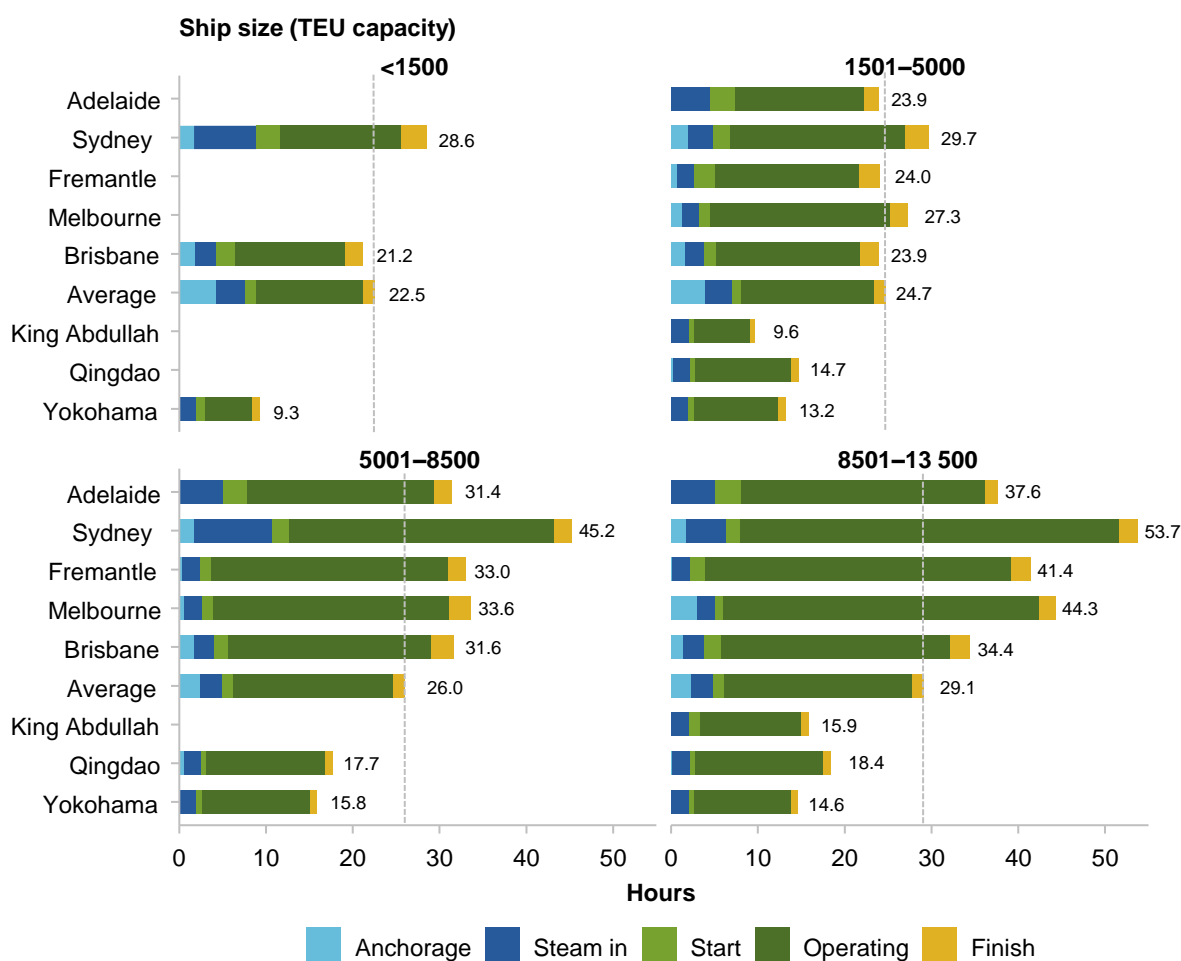
The Commission's analysis has found that, on average, Australian cranes were just as productive as the international average (figure 6). A key explanation for Australian ports' underperformance is that they used fewer cranes to service ships than the average international port (figure 7).

At first glance, use of fewer cranes and longer ship turnaround times might look like a bad thing. Longer times in port can lead to delays to shipments and disruption to supply chains, higher sailing speeds (meaning

increased fuel consumption, emissions and costs), or the omission of a port or ports from a trip. So longer port times imply higher costs (for shippers, shipping lines, container terminal operators and other participants in maritime supply chains).

But faster turnaround times will not necessarily be a good thing if they rely on inefficient use of inputs (such as overinvestment in capital), and the World Bank’s analysis did not account for the fact that some ports turn ships around faster because they use more inputs.

Figure 5 – Turnaround times at Australian ports are above international averages^{a,b,c}
Port hours by ship size and component, selected ports and global average, 2019-20



a. Gaps indicate that a port did not receive at least ten visits in the period. b. King Abdullah, Qingdao and Yokohama were the top performers in the World Bank’s 2021 study of 351 ports. c. Steam-in times for Sydney are likely overstated because they include time that should be attributed to anchorage. Conversely, anchorage times are likely understated.

The Commission used IHS data on port characteristics to analyse how productively ports used their inputs. A subset of ports with broadly similar characteristics (throughput levels and origin–destination cargo patterns) to Australia’s major container ports was selected. Unfortunately, data constraints confined the analysis to capital inputs, for example, terminals, berths and cranes. Many of these variables are effectively fixed in the short to medium term, meaning the analysis can primarily only provide guidance on the potential to improve productivity in the long term.

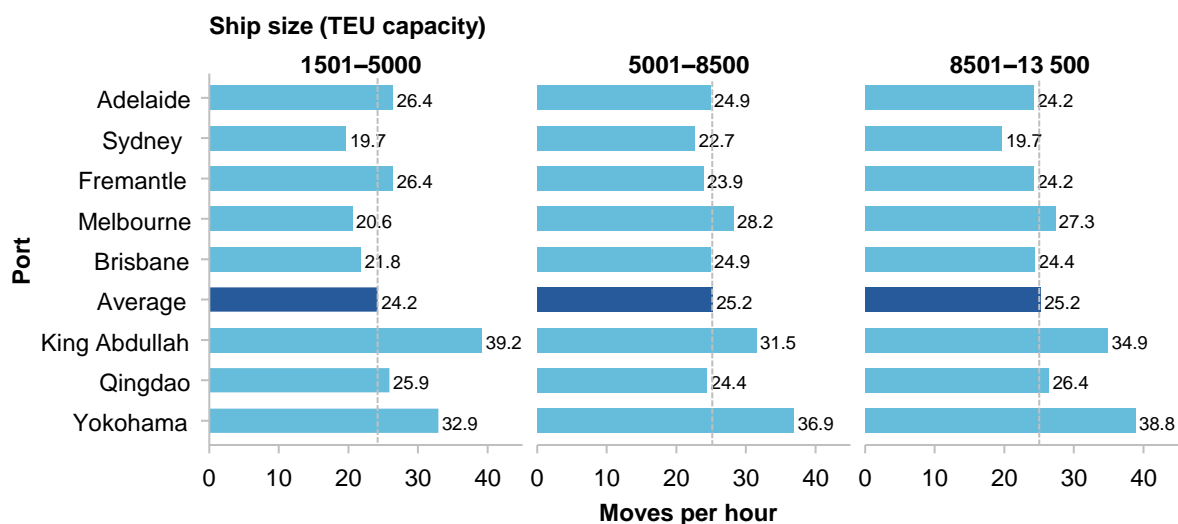
This work identified a ‘best practice’ set of ports — those that were using their capital inputs most productively. Apart from Adelaide, Australian ports were not operating at this ‘efficient frontier’; they could handle an increase in throughput by using their capital inputs more productively.

The Commission’s analysis also revealed the importance of considering port inputs. The port of Yokohama, for example, topped the World Bank rankings with the fastest turnaround times. Yokohama had similar throughput to Melbourne and Sydney, but operates with considerably more capital inputs. Yokohama had five container terminals, about 5.5 km of berths and about 40 quay cranes. In contrast, Melbourne and Sydney each had three terminals, about 2.5 to 3.6 km of berths and about 20 quay cranes. Yokohama did have higher gross crane rates than the Australian ports, but its capital utilisation rates were much lower (and its capital costs per lift presumably much higher). Yokohama turned vessels around more quickly, but high and potentially excessive capital levels contributed to this.

In short, faster ship turnaround times are a good thing, but not at any cost. Container terminal operators need to balance the speed with which ships are handled and the use (and costs) of inputs used in achieving that speed.

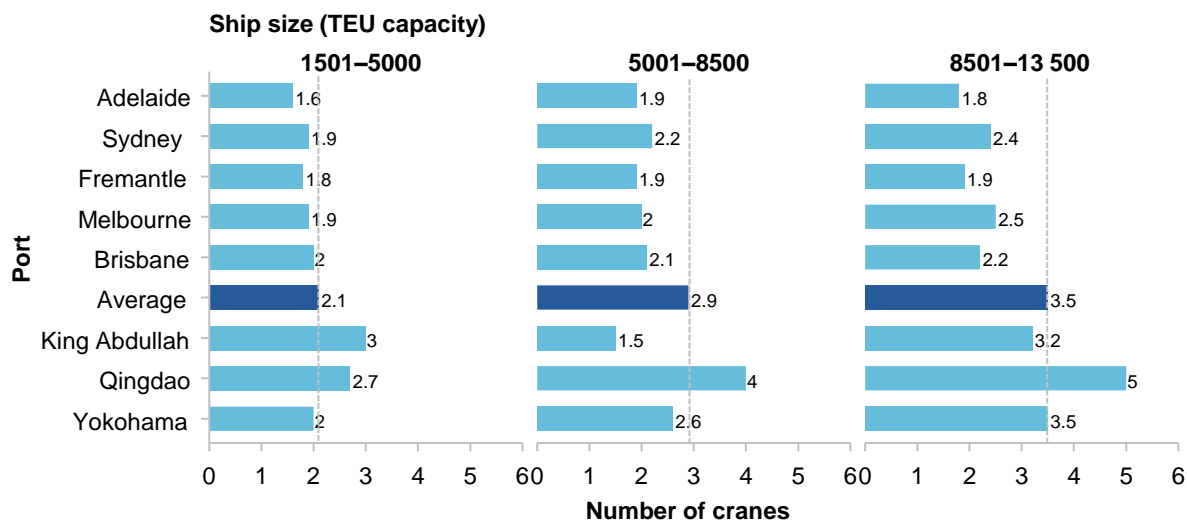
The World Bank study and the Commission’s analysis help to shed light on different dimensions of container port performance. And both of these international benchmarking exercises suggest there is scope to improve productivity in Australian container ports.

Figure 6 – Australian crane productivity is roughly similar to the global average^{a,b}
Gross crane rates by ship size, selected ports and global average, 2019-20



a. Ships with capacity less than 1500 TEUs are excluded because of missing gross crane hours data for Australian ports.
b. King Abdullah, Qingdao and Yokohama were the top performers in the World Bank’s 2021 study of 351 ports.

Figure 7 – Australian ports typically use fewer cranes to handle ships^{a,b}
Average number of cranes used by ship size, selected ports and global average, 2019-20



a. The average number of cranes (also known as the crane intensity) is calculated as gross crane hours divided by operating hours. Ships with capacity less than 1500 TEUs are excluded because of missing gross crane hours data for Australian ports.
b. King Abdullah, Qingdao and Yokohama were the top performers in the World Bank’s 2021 study of 351 ports.

Performance variations point to scope to lift productivity

Further evidence of scope to lift productivity lies in the considerable variation in gross crane rates for each terminal operator over time, and between terminal operators. The data suggests that Australian terminal operators could improve average ship turnaround times without making any changes to the average number of cranes used to service ships (or ‘crane intensity’) if they could more consistently achieve higher crane rates.

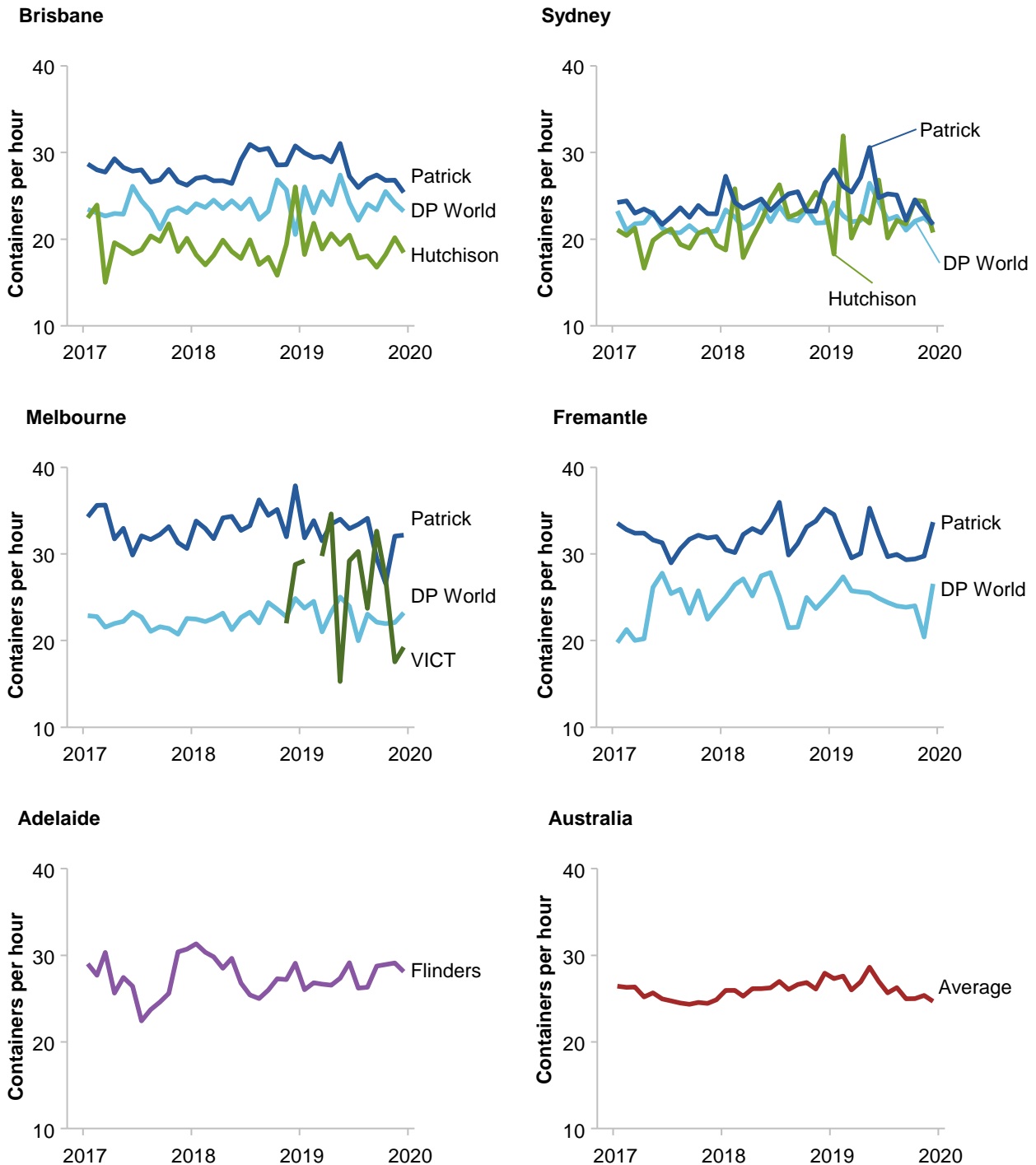
Between 2017 and 2019, for example, the monthly average number of containers moved per crane at Patrick’s terminal in Melbourne, ranged between a low of 27 and a high of 38 per operating hour (figure 8). And Patrick’s cranes averaged 10 more container moves per hour than cranes at DP World’s terminal (figure 9) (with similar levels of automation at the two terminals).

There are many possible explanations for these variations in performance. Tackling factors like restrictive work practices that make it less likely that each job in a container terminal is filled by the most appropriate person and better mechanisms to resolve protracted disputes (discussed below), are clear candidates for improving productivity.

Potential gains from improving container port productivity

Improving Australian container port performance could result in benefits for Australian importers and exporters. If the productivity of Australian port operations improved such that the ports were able to achieve global average ship turnaround times with their given inputs, and any cost savings were passed through, then savings in the order of about \$600 million a year are possible. Although these estimated direct benefits are small relative to the cost of all goods (both imported and exported), they are significant.

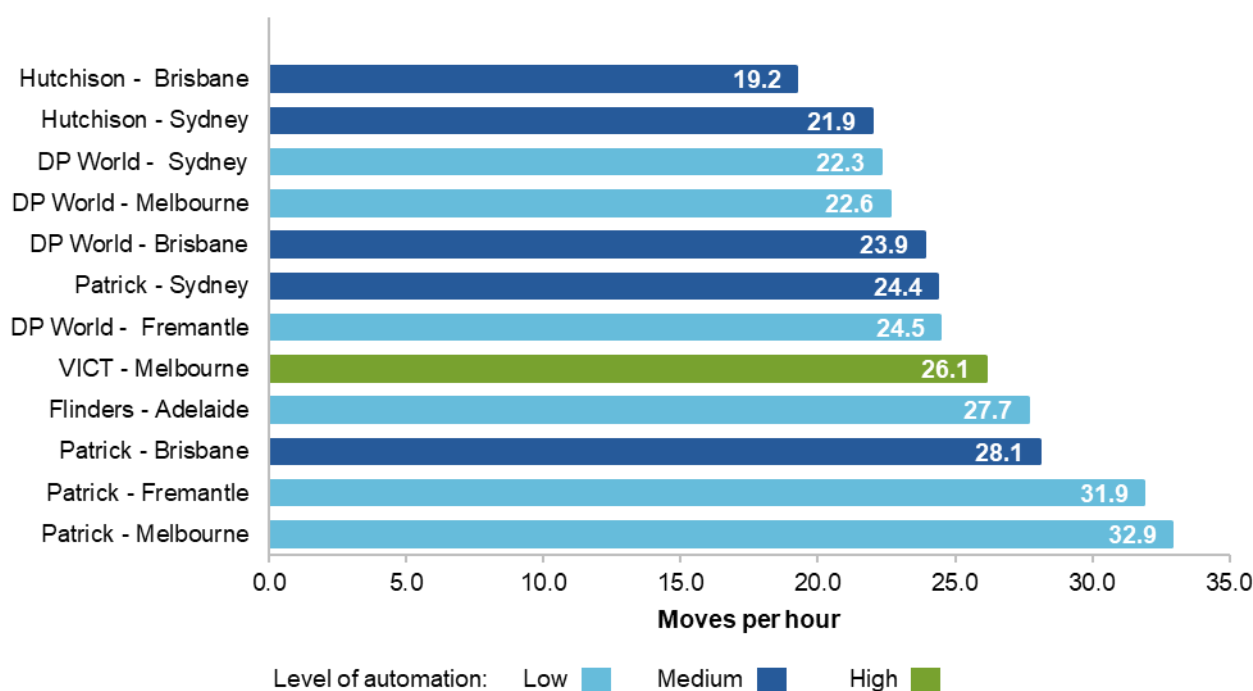
Figure 8 – Variation in performance points to scope for improvement
Average monthly gross crane rates, 2017–2019, by container terminal operator



Aside from the costs that port inefficiency imposes on importers and exporters, ports also play an essential role in the maritime supply chain and have large indirect impacts on Australian businesses, consumers and the economy. Any sustained disruption to imports or exports has the potential to cause substantially larger economic impacts than the direct cost estimates suggest. For example, disruptions to imports of goods that are critical to local production (such as the chemicals used in water treatment and personal protective equipment used in health care) could jeopardise the economy and the wellbeing of all Australians.

Well-functioning, efficient container ports help to ensure the reliability of the maritime supply chain and logistics systems more broadly.

Figure 9 — Variations in crane rates are not linked to levels of automation
Average monthly gross crane rate by terminal operator and level of automation, 2017–2019



Is market power impeding system performance?

The maritime logistics chain comprises a number of key service markets (figure 10). For example, ports supply anchorage and berth services to shipping lines; container terminal operators supply terminal services to transport operators.

Customers for some of these services have little or no choice of supplier, raising the possibility that some suppliers in the maritime supply system are not constrained by competition and are potentially exercising market power. This could lead to higher prices for customers, cost complacency by operators and lower levels of innovation in port services.

Ports have some market power but further regulation is not needed

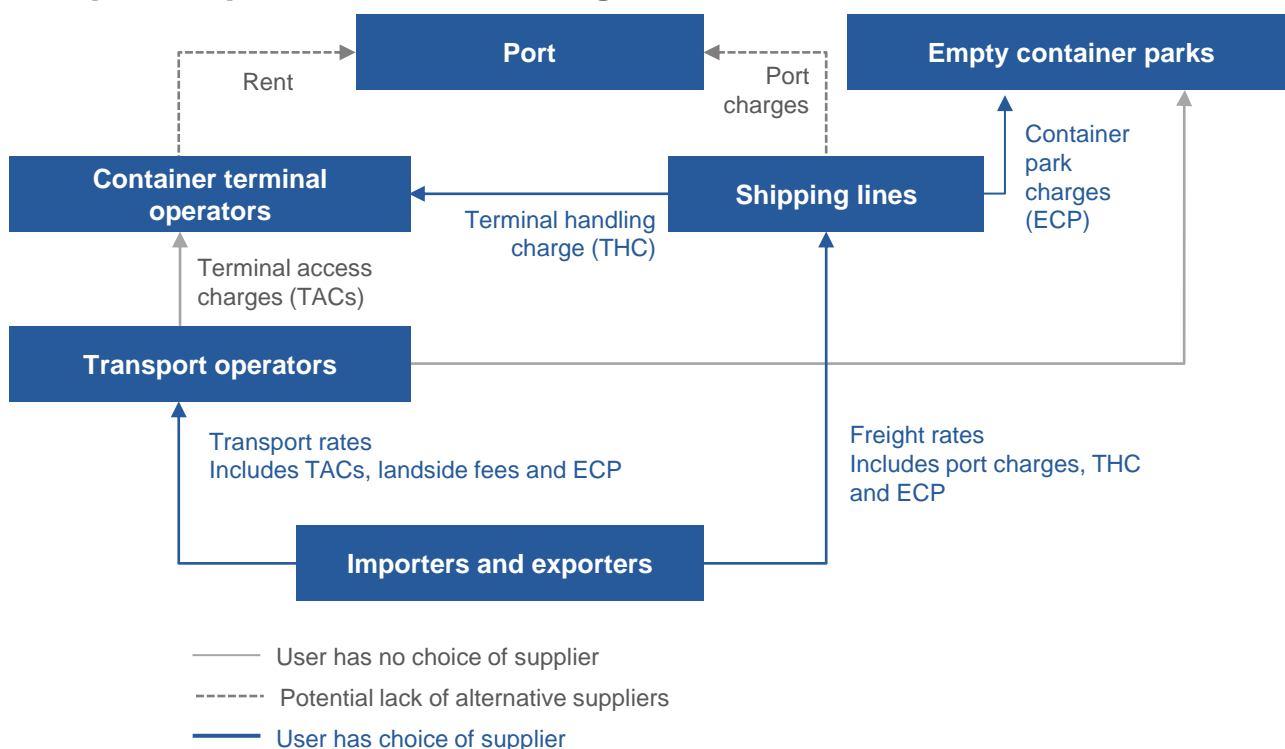
While demand for a port's end product (movement of freight) is driven by importers and exporters, port operators' main interface with the system is via contracts with shipping lines and container terminal operators.

Each of the five large container ports has (but is not necessarily exercising) market power in their relationships with shipping lines. If a shipping line wants to engage with cargo owners in a particular part of Australia, then it must operate through the 'local' port and there is little scope for shipping lines to substitute between container ports. Import cargo destinations are overwhelmingly local to each port and landside transport costs mean that moving cargo between cities to access an alternative port would typically be uneconomic. Shipping lines cannot credibly threaten to move all of their business elsewhere.

Port privatisation processes have entrenched port operators' market power over shipping lines in Sydney by combining the ownership of Port Botany and Port Kembla and penalising any development of container capacity at the Port of Newcastle (although a private members Bill passed in November 2022 has provided a pathway to remove one of the major anticompetitive restrictions).

Figure 10 – Port decisions affect the entire system

A simplified depiction of the maritime logistics value chain



In contrast, container port operators enter long-term contracts with container terminal operators and both parties bring considerable heft to the negotiating table. That said, there remain some risks that ports can exercise market power in their relationships with terminal operators. Container terminals operate significant infrastructure as tenants of the ports, have large setup costs and large sunk assets that can be held captive by a port in the event of expiry or renegotiation of a lease. And all long-term lease contracts are incomplete — it is impossible for them to cover every possible future contingency. Where material changes in market conditions, such as changes in port ownership, are not reflected in a contract, they may enable a port to behave opportunistically towards a terminal operator tenant. Moreover, post-privatisation rents paid by tenants have increased significantly for container terminal operators at Melbourne, Sydney and Brisbane.

However, the Commission has not been provided with evidence consistent with the ports systematically exercising significant and sustained market power over individual container terminal operators.

Regulatory settings appear to be adequate

The major container ports face regulation of their interactions with both shipping lines and tenants, such as terminal operators.

In the case of shipping lines, prices for services provided by ports are typically monitored (or face the threat of further regulation). The Commission received few complaints about port pricing to shipping lines,

consistent with this regulation acting as a constraint on the ability of each port to exercise market power over the shipping lines.

For landside tenants, container ports in Brisbane, Sydney, Adelaide and Fremantle operate under light-touch regulatory regimes and these jurisdictions have reserved the right to impose more comprehensive economic regulation. The Commission discovered little by way of complaint from tenants about the conduct of these ports in spite of inquiries. This does not mean issues do not exist, however — aggrieved parties may be unaware of avenues to air their complaints.

In contrast, the Port of Melbourne is both the most heavily regulated and most commonly complained about container port. Investigation by the Victorian Essential Services Commission found that the port had been exercising its market power over tenants in the setting of rents and in breach of its pricing order.

Given that only the Port of Melbourne has been found to be exercising market power over tenants there is no case for tighter regulation on all ports. The threat of further regulation appears to be constraining the conduct of ports in Brisbane, Sydney, Adelaide and Fremantle. And if tenants have concerns, they can raise them with the ACCC, which can shed light on them through its container stevedore monitoring report. State economic regulators can then respond as they see fit.

For the Port of Melbourne, the current arrangement for a 2025 review of the Port's adherence to a voluntary Tenancy Customer Charter (implemented in response to the Essential Services Commission investigation and providing additional dispute rights to current and prospective tenants), appears to be a next logical step in addressing issues around the Port's exercise of market power over tenants.

Issues in other markets need attention

Excluding ports, the maritime logistics system for containers includes three main markets: shipping lines' provision of shipping services to cargo owners; container terminal operators' provision of loading/unloading services to shipping lines; and landside transport operators' provision of services to cargo owners via container movements.

Repeal of Part X of the Competition and Consumer Act is recommended

Competition is robust in the market for shipping lines' services. While lines have been consolidating over the past three decades, multiple providers service Australia and cargo owners can easily switch between them. Before the COVID-19 pandemic, competition between lines resulted in declining prices. Steep increases in blue-water charges following the onset the pandemic reflected market responses to pandemic-related pressures. Rates have fallen markedly during 2022 and are likely to fall further as markets normalise, especially if trade volumes drop as efforts by central banks to slow inflation bite and as new ships on order come on line.

That said, lines are permitted to cooperate on ship use, schedules (timetables), containers, use of terminals and freight rates through agreements registered with the Registrar of Liner Shipping. For example, three lines might agree to run one service a week between Australia and Singapore. At a 42-day round trip, the service requires six vessels. The lines will agree on how many vessels each will contribute and on how much capacity each gets per vessel. Unused capacity can be sold to competitors that are not party to the agreement. (The Commission understands that none of the current agreements include price cooperation.)

While agreements enable shipping lines to achieve economies of scale, the law permitting them (Part X of the Competition and Consumer Act) does not require shipping lines to show that their arrangements provide a net public benefit to Australia — a requirement faced by similar industries. Putting shipping lines onto the same footing as other industries would ensure that any anticompetitive avenues for price cooperation are

only available to shipping lines when the cost of reduced competition is outweighed by other benefits to the Australian community.

Stronger regulation of terminal access charges is recommended

On the one hand, container terminal operators compete vigorously to provide services to shipping lines. Together with an increase in lines' bargaining power via consolidations and increasing port rents and labour costs, this contributed to declines in terminal operators' profit margins over the decade to the start of the COVID-19 pandemic.

On the other hand, container terminal operators have market power over landside transport operators who have no choice about where they pick up a container because shipping lines choose which terminal to use for a shipment.

Over recent years, container terminal operators have substantially increased charges levied on transport operators, including through the introduction of new fees.

Some of these charges are incentive-based and could improve efficiency. For example, no-show fees are charged when a truck operator fails to collect or drop off a container on time. Containers must be prepared prior to the transport operator arriving, and a truck missing its time slot costs the terminal operator. These fees are avoidable as long as the truck arrives on time, and they ensure that containers are picked up and dropped off efficiently.

Other fees, most notably terminal access charges (TACs), are not based on incentives but simply represent a fixed charge levied by a container terminal operator to receive a container from, or deliver a container to, transport operators. Inquiry participants have raised concerns about what they see as the lack of justification for increases in TACs and transport operators' inability to push back on them.

TACs have increased markedly at all capital city ports over the last five years. For example, between January 2017 and late 2022, the three operators in Melbourne increased their TACs for full imported containers from close to zero to over \$140 per container.

These steep increases have contributed to marked improvements in terminal operators' profits. Along with the inclusion of potentially unfair terms in some contracts with truck operators, they point to the use of market power by terminal operators.

Although it might be argued that the increases simply reflect a 'rebalancing' of revenue streams as charges levied on shipping lines have fallen, the fact that terminal operators have not been earning excessive profits over their entire operations is not a reason to ignore their abuse of market power on the landside.

In the short term, transport operators bear the brunt of any fee increases or new fees. In the longer term, they pass those costs on to cargo owners.

Fees charged by container terminal operators are subject to a range of regulation. The ACCC monitors their prices, costs and profits. New South Wales requires notification of fee increases to their transport department. And Victoria acted in 2020 to make fees more transparent through a voluntary protocol that sees complying operators provide advance notice of fee increases to transport operators and restrict fee increases to once a year. The National Transport Commission released similar voluntary national guidelines during 2022.

There are, however, limitations to these approaches. New South Wales does not require notifications to industry. And uptake of a voluntary approach is neither guaranteed, nor will container terminal operators that do take part necessarily strictly adhere to any requirements. Examples of incomplete adherence have been noted by inquiry participants.

Rapid increases in TACs, coupled with transport operators' lack of choice and of countervailing power in their relationships with terminal operators, suggest these regulatory settings are too light handed.

One response would see governments regulate fees, but this has costs: the direct costs of any scheme for terminal operators and regulators, plus the risk of distortions — for example, fees that aim to incentivise efficient behaviour might be set too low.

In its draft report, the Commission proposed that container terminal operators be prevented from charging fixed fees, such as TACs to transport operators. And that all fixed charges associated with container collection be shifted to shipping lines. Some inquiry participants strongly supported this recommendation, others vehemently opposed it.

The most compelling argument from opponents was that there has not been enough time to evaluate the efficacy of the new voluntary arrangements. And, on reflection, the Commission sees a real risk that terminal operators could find ways to raise revenues from incentive charges if fixed charges could not be levied on transport operators.

The Commission therefore recommends a mandatory industry code. The Australian Treasury would be responsible for developing the code and the code would be administered and enforced by the ACCC. A federal regulatory response is the Commission's preferred response because: it would ensure regulatory consistency for container terminal operators that operate in multiple jurisdictions; the state governments individually are not in a position to implement or enforce a national code; and the ACCC already monitors container ports through a direction from the Treasurer and has developed knowledge and understanding of the maritime logistics system.

The code should include that:

- all landside fees should only be changed once a year with container terminal operators required to simultaneously notify the ACCC and industry of planned changes. The fees to be covered by this rule would need to be decided during the development of the code
- the ACCC should have the authority to reject increases if it considers them to be unjustified. The ACCC could release guidance on how it will assess any application for a fee increase
- if an increase is rejected, an operator cannot propose an alternative change in a charge
- the ACCC's decision on whether an increase is justified should use fees charged on 1 December 2022 as the baseline
- the ACCC should collect any metrics it needs to form a view on whether proposed increases are reasonable, for example on the level of revenue raised by an operator from incentive-based fees and on landside performance (only metrics that do not reflect an operator's commercial position should be made public)
- there should be an annual report to transport ministers and the Treasurer which includes analysis of any unintended consequences of the regulatory regime
- consideration could be given to any penalties that might be required to support enforcement of the obligations under the code.

The code should be reviewed after five years of operation by an independent body. If the exercise of market power is still a concern, a more explicit regulatory regime, such as the 'light handed' approach recommended by the Commission in its draft report or a more heavy handed form of price setting, could be implemented.

Unfair contract terms should be addressed, particularly detention fees

Under Australian Consumer Law (ACL), in certain circumstances, application can be made to a court or tribunal to render void contract terms that are deemed to be unfair. The law only applies to 'standard form' contracts (contracts which are typically prepared by a single party to the transaction and offered on a 'take it

or leave it' basis), involving at least one small business (one with fewer than 20 employees) and where the upfront price is no more than \$300 000, or \$1 million if the contract is for more than 12 months.

A term in a qualifying contract is unfair if it:

- causes a significant imbalance in the parties' rights and obligations
- is not reasonably necessary to protect the legitimate interests of the party advantaged by the term
- causes detriment (financial or otherwise) to a small business if it were to be applied or relied upon.

There is evidence of unfair contract terms being used in the maritime logistics system. In 2019, DP World, Hutchison and Victoria International Container Terminal (VICT) agreed to remove or amend terms in their standard form contracts for land transport operators which the ACCC concluded were likely to be considered unfair. The ACCC also entered into a court enforceable undertaking with Hutchison. As part of this process, Hutchison acknowledged that two clauses contained within its Terminal Carrier Access Agreement may contravene the small business unfair contract terms provision of the ACL. And in 2021, GrainCorp (a company that provides export, storage and port terminal services) agreed to amend 19 terms in the grain warehousing agreement it used for small business grain growers.

Detention fees might be a further example of unfair terms.

Part of the contract between shipping lines and cargo owners covers container hire. Shipping lines usually own containers and hire them to cargo owners. That hire usually includes 7–10 'free' days (sometimes less, sometimes more) for cargo owners to unpack a container once it has been unloaded from the ship (discharged) and return it either to the specified port terminal or an ECP for de-hire (return to the shipping line). Shipping lines charge detention fees when containers are returned outside their free days window.

Transport operators play a key role in this process. Cargo owners pay transport operators to pick up their containers from the ship and to drop them off at an ECP once unpacked. Transport operators typically take responsibility for the container only after it has been unloaded and gone through customs / biosecurity checks. Therefore, cargo owners pay detention fees stemming from a delay in customs clearing a container. Once the container has been picked up, however, the contract for service between the transport operator and the cargo owner comes into play. Transport operators may bear responsibility for getting a container de-hired on time, depending on what they have agreed to in their contracts. As a result, if detention fees accrue because a transport operator cannot deliver a container at the agreed time, the operator may have to compensate the cargo owner for those fees.

Issues raised in this inquiry about detention fees include:

- full ECPs turning empty containers away, leading to detention fees for cargo owners
- customs / biosecurity delaying when containers can be picked up
- free day allocations including weekend days and public holidays, but ECPs not being open on those days
- shipping lines reducing the number of de-hire days.

The potential remedies for these issues under current legislative settings would be costly for a small transport operator or cargo owner to pursue.

Shipping contracts are exempt from the ACL's unfair contract provisions, meaning detention fees fall outside the scope of Australian law. International law covers contractual terms in a maritime context, but accessing justice via this avenue could be prohibitively expensive.

Detention fees exist to incentivise the timely return of containers. But if fees are levied, for example, when empty containers cannot be returned because parks are full, the incentive regime becomes moot.

Faced with similar issues, the US Federal Maritime Commission issued guidance on how they will consider the reasonableness of the conditions attached to fees in interpreting the relevant law.

The Commission considers that shipping contracts should not be exempt from the unfair terms provisions in the ACL and that this exemption should be removed.

Infrastructure needs are being addressed

Larger vessels will be accommodated

Container ships calling at Australian ports are small by global standards, prompting some to worry that Australian shippers may be missing out on the potential benefits of larger ships.

- The biggest ships that visit Australia typically carry around 10 500 TEU, which is the median ship size in the global fleet. While operators at the world's largest ports are contemplating the investments needed to accommodate 24 000 TEU ultra large vessels, Australian port operators are planning to accommodate 14 000–15 000 TEU ships.
- Bigger ships promise lower blue-water rates and fewer emissions, but they increase costs in the rest of the maritime logistics system. They may need deeper and wider channels, higher bridges and bigger and more cranes. And they make the landside freight task 'lumpier', with peaks requiring more flexible labour and potentially adding to urban congestion.

Australian container port operators and other parts of the maritime logistics system have invested to accommodate bigger ships and continue to prepare for further investment. There is no clear need for government intervention to fund or otherwise coordinate investment to encourage the use of bigger ships at privately owned ports.

More rail will require significant (possibly uneconomic) investment

Rail's share in container movements at Australia's ports is low (ranging from below 2 per cent at the Port of Brisbane to about 18 per cent at the Port of Fremantle).

This is not surprising. With some exceptions, transporting containers to and from Australian ports by train is more expensive than using trucks, and rail services are inherently limited in where they can deliver or pick up goods. For rail to be cost competitive, services need to run at a high frequency or cover large distances, but most imported containers are delivered within about 50 kilometres of ports. And freight typically competes with passengers for access to rail corridors, with passengers prioritised and slots for freight limited. Costs encountered when changing mode at intermodal terminals further influence whether and when rail is competitive.

Within and outside the maritime logistics system, the case is frequently made for increasing the rail mode share. Rail brings a range of nonmarket benefits — reduced road congestion, carbon emissions, and other pollutants, noise and accidents. And forecasts of substantial growth in Australia's freight task over the coming decades have contributed to most port authorities planning to substantially increase their rail mode share to slow the growth in road congestion. However, mode share targets have been set by state governments and not met in the past.

Increased use of rail is only likely to be achieved with significant (and possibly uneconomic) investment in dedicated rail lines and intermodal terminals. Taxpayer contributions to those projects is potentially justified by the nonmarket benefits associated with rail, but any contribution has to be considered on its merits. Careful business case development will be needed, including consideration of the likely demand for passenger rail services and the potential for developments like electric vehicles and new road investments to

reduce the nonmarket costs of road transport. Changing current road transport regulations (for example, curfews) would retain flexibility around future transport options and lead to a more efficient land transport system for containers without the cost and inflexibility of rail investment.

Empty container management will improve as pressures recede

Australia imports more containers than it exports, by a wide margin. And differences in the types of containers used for exports (primarily agricultural goods and raw materials) and imports (primarily manufactured goods) exacerbate this surplus. ECPs store containers before they are exported, and exports of containers occur on both regular container vessel services and on purpose specific 'sweeper' services.

The surge in global demand for consumer products during the COVID-19 pandemic, and a consequent repurposing of sweeper vessels to carry full containers, led to ECP congestion, particularly in Sydney (which had less capacity than other cities). With some ECPs at or near capacity, transport operators trying to return empty containers were sometimes turned away, contributing to the detention fees discussed above.

Temporary responses to congestion in Sydney have included an easing of restrictions on the height to which containers can be stacked in some ECPs and a subsidy scheme that encourages ships to collect more empty containers. While the scheme appears to have increased collection of empties, there is a risk it will reduce exporters' access to relatively scarce 20-foot food grade containers because the incentive structure does not distinguish between empty container types.

Overall, it is expected that many of the ECP pressures are transitory and will reduce as pandemic pressures further recede. Not least, pressures on berth access are lifting as disruptions ease, making both loading empty containers onto regular services and chartering sweeper vessel services more feasible. That said, a build up in pressure has been evident at times during 2022. Seasonal peaks in demand for goods have been a key contributor to congestion over the past year. Changes in consumption away from containerised goods have also driven a reduction in demand for shipping globally, decreasing the incentive for shipping lines to return containers to transshipment hubs. A growing container surplus worldwide may pose new challenges for container movement and storage in the future.

Longer term, increasing use of 40-foot containers for imports could mean that exporters who need 20-foot containers struggle to access capacity. Many agricultural products are dense and too heavy to ship in full 40-foot containers, and partially filling a 40-foot container would create safety risks if the contents moved. Potential remedies include technological solutions to contain loose cargos inside 40-foot containers and exporters acquiring their own containers so that they no longer rely on shipping company container pools. Finding solutions for this issue is a task for industry, not government.

Long-term planning appears to be adequate

Urban encroachment affects all major Australian container ports except Brisbane. Industrial land around some ports is gradually being redeveloped for higher value commercial and residential uses and this can create conflict with some port users. Planning decisions should support the highest value land use (which factors in nonmarket costs and benefits of alternative uses) — and this may involve rezoning and moving future terminal developments to sites where land use is less contested. Existing planning tools can be used to balance competing community demands.

Accommodating the expected growth in container freight in the coming decade will require effective long-term planning. While ports plan and invest in infrastructure to move goods between ports and the landside logistics system, governments have the primary responsibility for planning and investment in infrastructure beyond the port gate. And, given maritime logistics systems are often spread across multiple local government areas, they

are subject to both state and local government planning controls and decision making. State governments have the lead planning role; local government planning needs to align with higher-level schemes and coordination between different levels of government is central to efficient outcomes.

All state governments have released freight and transport strategies that include consideration of port infrastructure needs into the future. Compelling evidence has not been presented that more long-term plans are required or that these plans will not be implemented.

Workplace arrangements lower productivity

Workplace arrangements are critical to the operation of businesses and fundamental to employees' livelihoods and wellbeing.

These arrangements are shaped by Australia's workplace relations system — a complex array of laws, regulations and institutions, with the *Fair Work Act 2009* (Cth) (FW Act) and the institutions that administer it at the centre.

The Fair Work Commission (FWC) is the national workplace relations tribunal. Among other things, its functions include approving enterprise agreements (EAs), dealing with matters about bargaining and industrial action, and issuing orders to stop unprotected industrial action. The FWC can deal with disputes between employers and employees through conciliation, mediation and (where permitted under the FW Act) arbitration.

Key elements of workplace arrangements on Australia's container ports (for example, hiring and promotion protocols, remuneration and rostering rules) are set out in EAs negotiated between employers and employees who are usually represented by one or more of the three unions that operate in the sector: the Maritime Union of Australia (MUA), the Australian Maritime Officers Union and the Australian Institute of Marine and Power Engineers.

Workplace relations laws changed significantly in December 2022 when the *Fair Work Legislation Amendment (Secure Jobs, Better Pay) Act 2022* (Cth) (FW Amendment) passed the Australian Parliament. Consequent amendments over the 12 months to 6 December 2023 will amend the FW Act in stages to substantially change bargaining arrangements across the economy, including through an expansion of multi-employer bargaining. It is possible that these changes will enable multi-employer bargaining at the ports. But it is not clear if employees and their unions will pursue the option, nor how the FWC will limit multi-employer bargaining. If unions do pursue this option in container terminals, it will not be until 2025 when most EAs expire.

It will take time, and new case law, to fully understand the effect of the new legislation on bargaining in Australia.

The Commission investigated Australia's *Workplace Relations Framework* in 2015. Where relevant, recommendations from that inquiry are repeated in this report — primarily on the conduct and regulation of protected industrial action. The Commission's view remains that these recommendations should be applied across the economy, as was recommended in 2015. For recommendations being made for the first time in this inquiry (in the areas of content of EAs and role of the FWC), the Commission has only considered evidence from the operation of workplace relations in the major container ports and, therefore, is not in a position to recommend economy-wide changes. It will be for future work to evaluate whether these recommendations should be applied more broadly.

Workplace arrangements in container ports are a significant concern

There are compelling arguments that workplace arrangements in Australian ports have adversely affected productivity (box 2). Notably, the ACCC remarked that:

... systemic industrial relations issues across the entire container freight supply chain have played a pivotal role in inhibiting productivity and efficiency gains at Australian ports. While this has been a challenging area for some time, restrictive work practices and industrial actions have escalated in recent years.

The broader economic ramifications of disruptions to port operations during EA negotiations are also a major concern (box 3).

That said, in contrast to other inquiry participants, employee representatives argued that container terminal workers and the EAs under which they are employed are not responsible for supply chain issues or poor productivity of container terminal operations (box 2).

On balance, however, evidence suggests that both the process of bargaining to reach new agreements and the content of EAs affect port performance. These are considered in turn.

Box 2 – Many, but not all, inquiry participants think workplace arrangements lower productivity

Many inquiry participants stated that workplace arrangements are having significant negative effects on the performance of Australia's container ports.

DP World (sub. 49, p. 51) submitted that 'flaws in DP World's industrial framework impose the most urgent and significant drag on competition and productivity within Australian ports'.

QUBE (sub. 64, p. 7) observed that:

The strong bargaining position of the union and its ability to cause significant damage to customers in particular makes the achievement of improved productivity and efficiency extremely difficult.

Ai Group (sub. 60, p. 12) stated that:

... industrial relations practices in the maritime and ports sector are hampering productivity and increasing costs for both operators and users of ports and shipping. There is a clear case for further Government intervention.

GrainGrowers (sub. DR121, p. 4) commented that they are 'deeply concerned about the detrimental impact protracted industrial action has had on port productivity'.

As a landlord port, Port of Melbourne (sub. DR123, p. 12) welcomed 'consideration of industrial relations as a factor in the reliability and consistency of terminal performance'.

Several submissions (HIA, sub. 40, pp. 3–4; IFCBAA, sub. 34, p. 9; NatRoad, sub. 8, pp. 8–9) agreed with the ACCC's 2021 findings that:

Restrictive work practices and industrial actions have escalated over the past decade. This has contributed to the relatively poor performance of Australian [container] ports and has caused ongoing disruptions to the entire supply chain. (ACCC 2021, p. viii)

Box 2 – Many, but not all, inquiry participants think workplace arrangements lower productivity

Employee representatives, on the other hand, argued that workplace relations at container terminal operators are not driving poor productivity on the ports.

The MUA (sub. 59, pp. 6, 30, 40–43) stated that ‘the significant improvement in labour productivity has been the main contributor to overall container terminal productivity improvement over the last 22 years. In fact, the overall improvement in container terminal productivity appears to be almost entirely due to the increase in labour productivity’. The MUA also pointed out that workers in terminal operations have no role in many of the tasks which drive some measures of performance like berth hours. These are driven by other workers including pilots, mooring line workers, towage workers and regulators like harbourmasters.

The International Transport Workers Federation (sub. DR129, p. 9):

... endorse[d] the submission of the MUA that a key point to make is that across all segments of the movement of a container from ship to terminal gate, the terminal operator workforce has only minimalist influence on efficiency and productivity. The overwhelming influence derives from capital — its allocation, efficiency and productivity — and the quality of management which controls that capital.

Box 3 – Industrial action can have significant effects on third parties — particularly industries dependent on maritime freight

Inquiry participants detailed the impact of protected industrial action on participants in the supply chain. For example:

Industrial strike action at shipping ports has led to significant anxiety and stress for business operators in the food and grocery sector. Industrial dispute action has led to a delay in container movement and warehousing backlogs impacting local businesses and the consumer. This has significant implications for the [fast moving consumer goods] sector where inputs, ingredients and finished goods have limited shelf-life and are prone to infestation ... The [Australian Food and Grocery Council] has received consistent feedback of missed shipping windows and significant cost implications leading to a loss of business and product wastage. (AFGC, sub. 21, pp. 8–9).

... farm machinery destined for the Port of Fremantle was instead diverted to Port Melbourne, creating millions of dollars in additional costs to freight the machinery back to Fremantle via land, and weeks of delay. (NFF, sub. 14, p. 10)

At least five iron ore and gold mining companies in Western Australia were impacted by industrial disruption at the Port of Fremantle resulting in delays to the receipt of mining equipment, including spare components, haul trucks, wheel loaders and dozers. (MCA, sub. 25, p. 5)

Box 3 – Industrial action can have significant effects on third parties — particularly industries dependent on maritime freight

During the last bargaining period (2018 to 2020) DP World conservatively estimates that the value of goods disrupted in each day of industrial action was over \$200 million across DP World's four terminals. (DP World, pers. comm., 27 May 2022)

The Tasmanian Government (sub. DR113, p. 9) also submitted that:

... [i]n recent years, industrial action at the Port of Melbourne has disrupted activity at the Port, compounding delays in already stressed supply chains. The flow on impact on Tasmanian businesses supports the Commission's comments that industrial action can have significant effects on third parties — particularly industries dependent on maritime freight.

Protracted bargaining has been the subject of reform but protected industrial action merits further actions

Container terminal employees have significant leverage in EA negotiations

The workplace relations system is designed to balance outcomes for employers and employees. Allowing employees to bargain collectively and to take industrial action while negotiating EAs are mechanisms designed to achieve this. Government also sets some minimum standards by regulating floors for wages and conditions.

However, a challenge for governments is to create a regulatory system where neither party has significantly more bargaining power than the other, so that outcomes are likely to represent a reasonably balanced compromise between employer and employee preferences. The system is not static and has been through a number of phases, influenced by political processes, and this in turn affects where this balance lies.

Conditions in container terminal operations confer significant — and unbalanced — bargaining power on employees. Terminal operators have strong incentives to maintain operations — disruptions are very costly. Terminals involve significant investments in plant and equipment that have little value in alternative uses and competition between operators is high. And, as discussed above, shipping lines can easily shift their business between operators, and consolidation over the past decade has increased lines' bargaining power relative to container terminal operators'. These factors give greater leverage to employees to the extent that they can threaten actions that affect asset utilisation. Employees' bargaining capacity is also strengthened by the dominance of one union, the MUA, and its high membership density in the workforce. Moreover, the risk of conflict has an historical dimension, with long-standing adversarial relationships between employers and employees.

Recent negotiations were protracted and industrial action hit productivity

Bargaining periods across most container terminal operators were extended in the most recent round of EA negotiations (figure 11) and took much longer than the economy-wide average. The average time to reach agreement at container terminal operators was about 525 days (compared with about 295 days for negotiations before 2018). In comparison, negotiations for the almost 14 000 agreements struck across the

economy over the three years to March 2022 averaged about 200 days.¹ In addition, there was significant overlap in bargaining activity at container terminals in the last bargaining period. For at least 900 days, two or more operators were bargaining at the same time, and for about 130 of those days, negotiations overlapped for four of the five operators.

The MUA noted that the COVID-19 pandemic was particularly disruptive for EA negotiations with the three largest container terminal operators — DP World, Hutchison and Patrick Terminals. Other inquiry participants contended that bargaining was not conducted efficiently and consumed significant resources.

One consequence of protracted bargaining is that it translates into an extended period during which employees can take protected industrial action and, once authorised, a wide range of actions can be pursued. Working with a non-dominant hand, for example, is permitted. Disruption can be created at little, if any, cost to employees by the MUA notifying a work stoppage then cancelling the action just before it is due to commence. As a result, workflows are disrupted and contingencies may have been planned, but union members are paid because the shift goes ahead. Employer response options to protected industrial action are limited to locking out the workforce.

Evidence suggests that protected industrial action negatively affected container terminal performance during the recent round of EA negotiations:

In late 2020, during the most recent round of enterprise bargaining, a detailed assessment undertaken by DP World showed that productivity was being impacted between 22–34% in any given 24-hour period and that DP World lost between 16 hours and 50 hours of productive work each day. Collectively ... over 60,000 individual working hours was lost to protected and unprotected industrial action during the last DP World bargaining round. (DP World, pers. comm., 27 May 2022)

Close to 35,000 productive hours were lost [between] commencement of bargaining in September 2020 and November 2021, causing significant business interruption across the supply chain. Patrick concluded negotiations in March 2022. (Patrick Terminals, pers. comm., 9 June 2022)

Impacts on productivity were evident in crane rates (figure 12). And there were significant effects on industries dependent on maritime freight (box 3).

Another consequence of the lengthy recent round is that four of the five container terminal operators' EAs expire between March and December 2025. Overlap in bargaining activity is likely to be more common in the next round, bringing with it a number of risks:

- container terminal operators may be subject to simultaneous protected industrial action:
 - this would confer substantial leverage to the MUA, even if chooses not to exercise it, through the ability to shut down or heavily limit operations across an entire port
 - it may also prevent container terminal operators from subcontracting work to other operators — a common practice to manage disruptions
- a higher load on union resources, which may lead to longer negotiating periods.

Changes to the FW Act in December 2022 to limit intractable bargaining (discussed further below) may address these risks to some extent.

¹ This time period largely corresponds with the last round of bargaining at container terminals from November 2018 to March 2022. The Department of Employment and Workplace Relations is still building this dataset. This figure is the best estimate as of November 2022.

Figure 11 – Reaching agreement can be time consuming
Length of lines represent time spent bargaining for a new EA

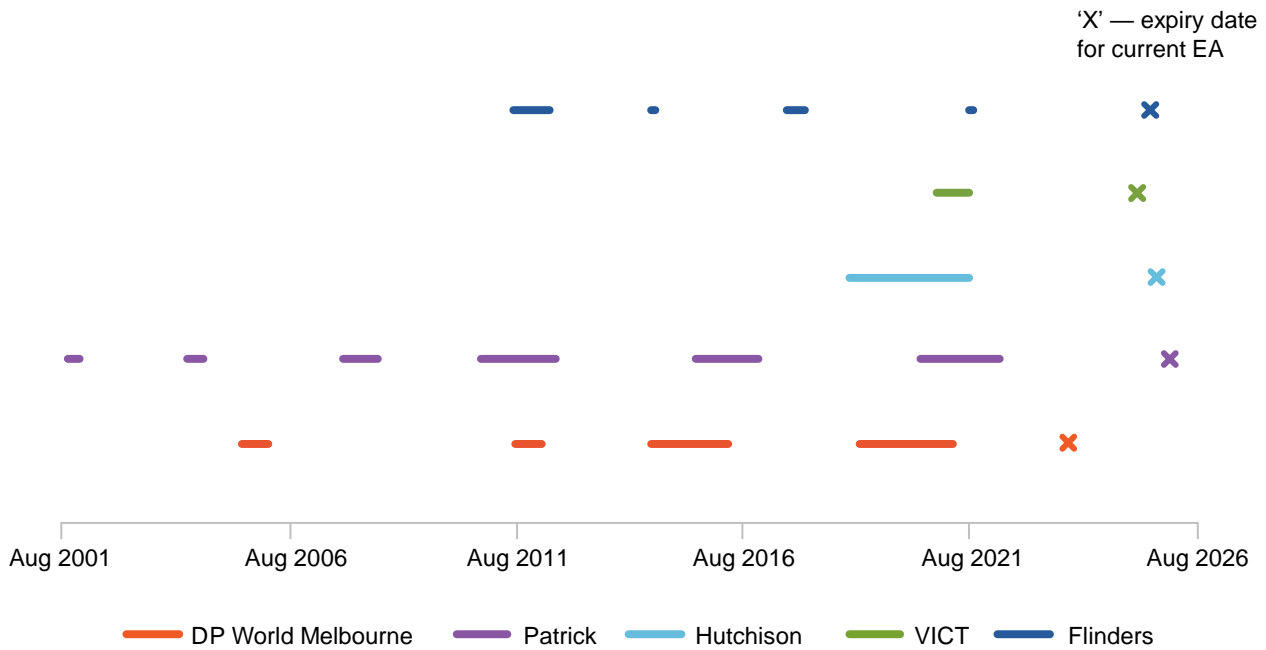
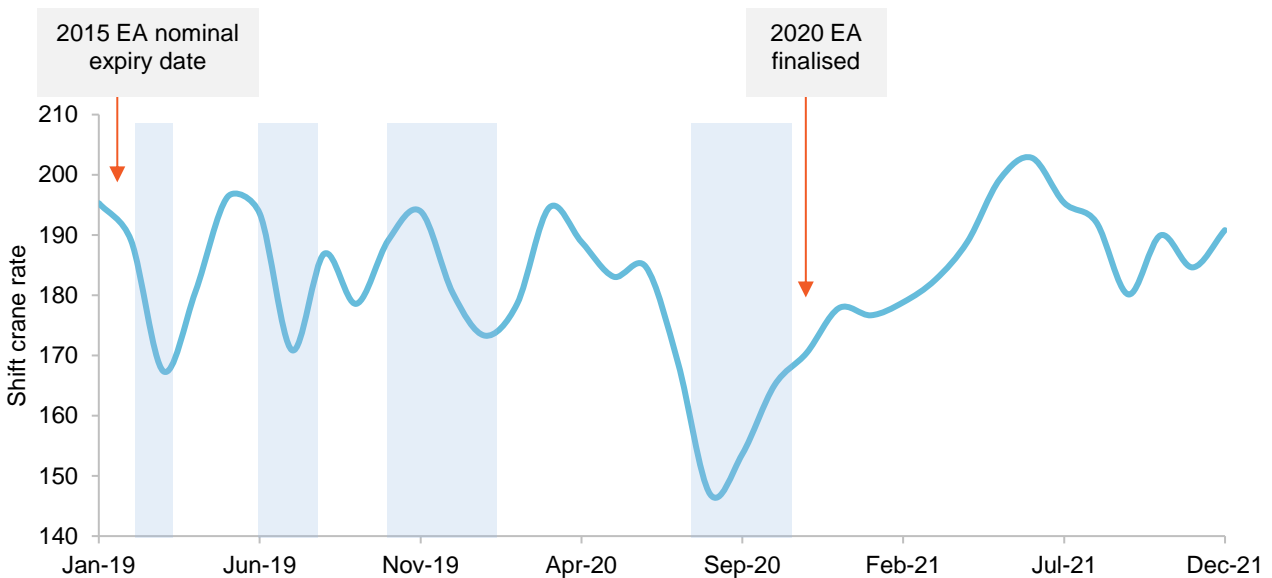


Figure 12 – Periods of protected industrial action correlated with lower crane rates at DP World's Port Botany terminal

Blue shading represents periods of protected industrial action



The Government has made changes designed to limit intractable bargaining

Under the FW Act, bargaining parties can apply to have the FWC deal with a dispute during the bargaining process, and an applicant can specify the level of intervention sought, from help in resolving a single issue to more extensive involvement. The FWC can deal with the dispute through conciliation or mediation, making a recommendation or, if the parties agree, arbitration. However, uncertainty about the outcomes of any

intervention (in some instances linked to perceived variability in the approach taken by individual FWC members), and concerns about having conditions imposed upon them, may mean bargaining parties are reluctant to approach the FWC.

While parties initiated FWC intervention during the 2018–2022 bargaining round in container terminals, protracted bargaining suggests that to date, FW Act mechanisms have not prevented lengthy bargaining.

The changes to the FW Act in December 2022 seek to address protracted bargaining across the economy by effectively introducing arbitration by a full bench of the FWC once bargaining reaches certain time thresholds and the FWC has decided there is no reasonable prospect of an agreement without intervention by the FWC.

Effective remedies for industrial action with economy-wide costs appear limited

The FWC has the option of suspending or terminating protected industrial action on the grounds that it is causing significant economic harm to the employer and employees engaged in bargaining or to the national economy (or an important part of it). For example, when Svitzer announced it would indefinitely lock out its workforce in November 2022, the FWC intervened on this basis and suspended industrial action by all parties for six months. But the FW Act does not define ‘significant’ and FWC decisions have set a high bar.²

The Australian Government Minister for Employment and Workplace Relations also has discretion to intervene on the basis of significant economic harm. Again, this sort of intervention is rare, but the threat of intervention may contribute to the resolution of industrial disputes. For example, in October 2021, the MUA’s decision to suspend an 11-week period of rolling strikes coincided with a threat by the Minister to apply to the FWC to terminate the industrial action on the basis that it was damaging the Western Australian economy.

Another mechanism that has been used by some employers in response to protracted and heavily disputed bargaining in the ports has been applying to the FWC to terminate nominally expired enterprise agreements. Three employers in the ports (Patrick Terminals, Smit Lamnalco and Svitzer) applied to terminate their agreements in late 2021/early 2022. Termination is a serious and rare step, and the fact it was pursued three times in recent negotiations is further evidence in support of the need for additional mechanisms to help parties reach agreement.

Since these applications, the Government has narrowed the grounds on which the FWC can grant an application by employers or employees to terminate an agreement. This will mean that until the new intractable bargaining criteria have been met, employers essentially have only one industrial action response to highly disruptive employee claim action — locking out employees.

On balance, the Commission considers more graduated responses are needed in the FW Act to support effective bargaining and reduce overly harmful industrial action.

While submissions primarily raised concerns about the prevalence and negative effects of protected industrial action, unlawful (or unprotected) action was also identified as an issue by some participants. The prevalence of unlawful industrial action in the ports indicates that the penalties regime is not providing effective deterrence.

FW Act amendments and improved operation of the FWC are recommended

In line with its 2015 report *Workplace Relations Framework*, the Commission recommends that the FW Act is amended to:

- clarify that ‘significant’ should be interpreted as ‘important or of consequence’

² ‘Significant’ has been interpreted as ‘exceptional in its character or magnitude when viewed against the sort of harm that might ordinarily be expected to flow from industrial action in a similar context’.

- allow the FWC to suspend or terminate protected industrial action when it is causing, or threatening to cause, significant economic harm to one party under the EA rather than both (as is currently the case)
- include options other than lockouts for employer protected industrial action
- enable employers to choose either to deduct wages or continue to pay employees for protected industrial action which lasts for less than 15 minutes.

To address unlawful or unprotected industrial action, the Commission is also restating a recommendation made in the 2015 inquiry, that federal courts should be given greater discretion to impose penalties for contraventions of the FW Act that are more commensurate with the losses resulting from unlawful behaviour.

Further, port-specific amendments are recommended to:

- widen the range of third parties who can make applications to terminate protected industrial action, for example, to include entities with an interest but who may find it difficult to show they are directly affected, such as employer or employee associations, or third parties like importers/exporters
- enable employers to better prepare for industrial action by lowering the threshold for applications to extend the mandatory three-day notice period for protected industrial action to up to seven days.

The changes to the FW Act made in December 2022 seek to address intractable bargaining across the economy. This aligns with the Commission's draft recommendation of a mandatory requirement for FWC intervention when certain thresholds in bargaining activity are reached to limit protracted bargaining in the ports.

With the aim of ensuring that approaching the FWC is attractive to bargaining parties, the Commission recommends that the FWC (supported by amendments to the FW Act where necessary):

- establishes a fast-track process for dealing with applications involving port employers and employees and their representatives
- enables more decision making by full benches to assist consistency of decision making
- arranges that FWC commissioners with industry knowledge and familiarity with parties are available for ports matters.

The Commission also recommends amending the FW Act to require input from employers and employee representatives in the selection of FWC members dealing with port matters, with the objective of identifying nominees who have the confidence of both employers and employees.

Prohibition of some agreement content is recommended

Some clauses in terminal operators' EAs constrain productivity and efficiency

A number of the clauses found in container terminal operators' EAs are highly restrictive and constrain the ways that workers and equipment can be deployed.³ For example, there are clauses that limit:

- merit based hiring, promotion and training (recruitment is limited to entry level roles in some operators and movement up the career ladder is strongly linked to tenure with that operator)
- who can fill a role or backfill a position when another worker is not available
- automation.

³ Clauses vary from agreement to agreement, but many terms have a similar effect.

Agreements also create a strong hierarchy of employment type by tenure. New hires begin as casuals (generally called supplementary employees on the ports) before moving to permanent guaranteed wage and then permanent full-time employment.⁴ This limits the flexibility (and diversity) of the workforce.

While it is not uncommon for agreements in the rest of the economy to include clauses dealing with at least some of the content listed above, container terminal EAs appear to put much stricter conditions in place than EAs in many other sectors.

Clauses that limit recruitment, promotion and training decisions combine to make it less likely that the most appropriate person for a job is the person in the role. As a result, terminal productivity may not be as high as it could be. These clauses also disadvantage both existing and potential container terminal workers. Existing workers may not be in roles most suited to their skill sets or preferences. And competent outsiders cannot get in — existing employees are shielded from merit-based competition.

Strict rules that dictate who is picked for a shift or covers an absence also limit terminal operators' ability to choose the most appropriate person for a job and can make it difficult to backfill a role. Combined with minimum staffing requirements for some types of equipment, challenges in filling a role can mean that a whole team is unable to work a shift — with clear implications for productivity and efficiency.

Under the FW Act, all EAs must include clauses requiring an employer to consult with their employees about major workplace change, like automation. But requirements in container terminal EAs set up lengthy and/or complex consultation processes and can require employee agreement to any change. These act as a brake on investment and mean that potential benefits, such as improvements in the safety and reliability of terminal operations, may be missed.

Ships arrive in port at all hours of the day and night and container terminal operators are under considerable pressure to have workers and equipment available when a ship berths. Delays in arrival times, for example, from bad weather, can mean workers are rostered on but not working. The extent to which rosters accommodate fluctuations in demand is contested. While operators called for more flexibility; the MUA argued that workers are very flexible and further flexibility is untenable.

Limits should be placed on agreement content

To lift productivity and efficiency, the FW Act should include a short list of content that cannot be included in EAs in the ports. The list should aim to prohibit *excessive* constraints on:

- merit-based hiring, promotion and training
- the number of casual workers and other workers with flexible rosters
- who employers can choose to backfill positions
- innovation and workplace change.

Some inquiry participants argued for a ports code akin to the former building code. If adopted, this could involve a longer and more prescriptive list of unlawful agreement content than proposed above. The Commission has concluded that a short list of unlawful content is a better approach.

The Commission's recommendations for workplace relations reform in Australia's major container ports involve a wide suite of measures that give the FWC an expanded role, impose limits on agreement content and address imbalances in bargaining power. Whether, if implemented, they strike the right balance or

⁴ Permanent full-time employees have relatively fixed rosters. Guaranteed wage employees are permanent employees who usually have a much more flexible work arrangements than permanent full-time employees. They may be entitled to a minimum or average number of weekly shifts, or an equivalent payment.

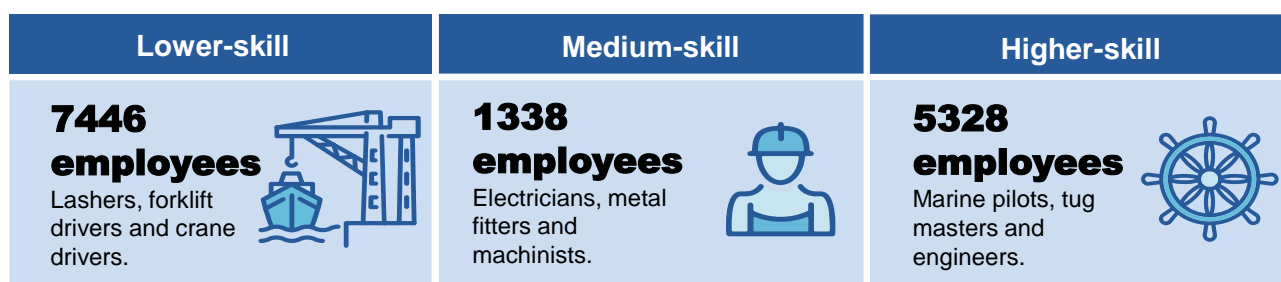
involve unforeseen complexities and inefficiencies should be the subject of independent evaluation once these interventions have been in force for five years.

Skills and training raise few productivity concerns

A variety of skills are required to move freight in or out of ports. The journey of a container through a port relies on many workers, from those that Jobs and Skills Australia refers to as lower-skilled, who are usually employed in entry-level jobs such as lashing, to medium-skilled workers such as electricians, through to higher-skilled professionals such as marine pilots (figure 13). Local variations in conditions and technologies can mean that the exact skills needed for specific roles may vary between ports and even between different firms conducting the same task at the same port.

While container terminals rely more on onsite, unaccredited training (reflecting workplace relations arrangements and site-specific needs), professional on-water occupations like marine pilots, tug masters and engineers usually combine vocational education and training or higher education qualifications with extensive blue-water experience.

Figure 13 – Workers in many different roles are needed on Australia’s ports



Inquiry participants have raised few concerns about the system that delivers skills and training for port workers — the system largely appears to be functioning well. There is scope for improvement in some areas, but extensive redesign is not necessary.

- A lack of formal qualifications could be a barrier to labour mobility between container terminal operators if prior experience is not recognised at another company or port. However, workplace arrangements seem to be creating a larger barrier to labour mobility than either the absence of formal vocational education and training qualifications or any gaps in the mutual recognition of occupational licensing. Adoption of the workplace relations recommendations discussed above would help address this.
- Some participants have raised concerns about the potential for shortages of marine pilots, and advocated for a strategic fleet to provide training opportunities. Access to the blue-water experience needed to qualify for marine pilot roles may have become more difficult as Australia’s coastal fleet has reduced. To the extent this is an issue, it is best addressed through immigration and cadetship programs without additional government intervention.

Skills needs in parts of the industry are likely to change as automation and other technology is introduced. However, it is likely this adjustment will be gradual, as it has been in the past. Adjustments are already being made to vocational education and training courses to include future-focused content.

Australian ports are adopting technology where desirable

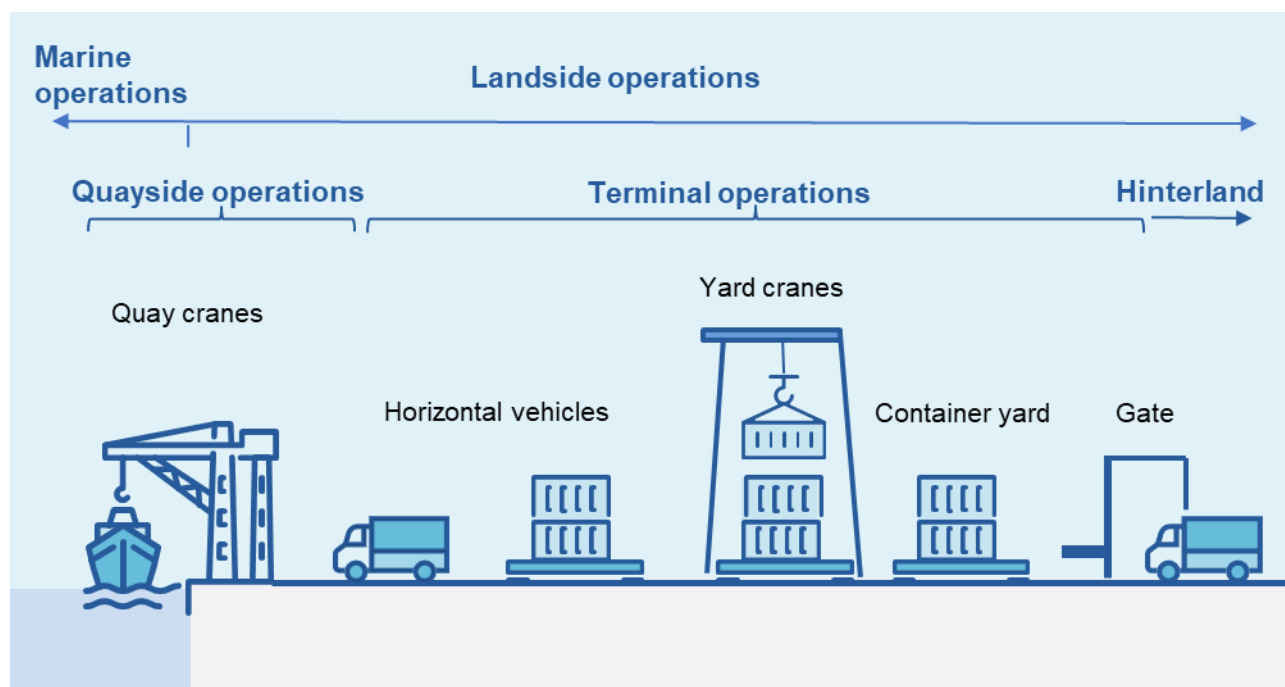
The adoption of technology at Australia's container ports is broadly in line with international practice.

In exploring current practice, the inquiry focused on three topics raised by inquiry participants — automation at container terminals, the availability and exchange of information, and cargo clearance systems.

Automation may not increase crane rates but has other benefits

Increased automation can be used at all stages of the maritime logistics chain and particularly in container terminal operations. All the key operations and hardware used in container terminals (figure 14) can be automated. Extensively automated systems are becoming standard for major greenfield developments. In contrast, existing container terminals typically choose to automate discrete parts of their operations over time, in order to minimise the cost and disruption of converting to fully automated systems.

Figure 14 – Key operations and hardware in container terminals



The level of automation differs substantially across Australia's container terminals. Fremantle is the least automated port — its terminal operators rely on manual yard operations and quay cranes. The Port of Brisbane has the highest overall level of automation, with all its terminal operators utilising automation in their terminal yards, but manual quay cranes. And VICT is Australia's most automated terminal, with automated yard operations and gates and remotely controlled quay cranes.

Despite this variation, Australia's major container ports appear to be well advanced in adopting automation relative to high performing global terminals.

Further, there are mixed views about how great an impact automation has had, or can bring about, on performance in Australia's maritime logistics chain. While terminal operators claim automation can lead to higher rates of cargo handling, the MUA's view is that it is neither as reliable nor productive as human labour.

Overall, it is not clear from examining gross crane rates at the major container terminals that there is any correlation with levels of automation (as illustrated by the data presented in figure 9). There is no simple argument that more automation moves more containers in an hour.

However, there are some clear benefits from automation that appear to be driving its steady adoption by Australia's container terminals. The use of technology has the potential to improve the safety, reliability and consistency of terminal operations and reduce labour costs. In particular:

- reducing the number of workers required in container yards by automating equipment can reduce or alleviate instances where humans would otherwise be put at physical risk
- the potential for automated equipment to run around the clock without interruption makes it reliable, predictable and easier for operators to plan around.

Data sharing technology and trends

Data is produced and used at all stages of Australia's maritime logistics system. For example, data is generated through interactions between stakeholders and contained in documents. Performance-based data is generated by business activities. Sensors on physical objects create shared electronic data (commonly referred to as the 'Internet of Things').

Data analysis has many potential benefits, such as: optimised freight routes and schedules (ensuring that more cargo can flow uninterrupted); key performance indicators (highlighting opportunities to improve efficiency); and visibility of cargo origins and destinations (supporting infrastructure planning).

Australian ports are implementing new data-based technologies. For example, Flinders Port Holdings has used analytics to optimise the allocation of straddles and positioning of containers, so that containers move through the port as efficiently as possible. And analysis of detailed data on channel conditions has enabled larger vessels to safely access the Port of Brisbane, reducing the need for channel deepening.

While data sharing has enabled innovation, it could provide additional value. The public sector has the potential to aid maritime data sharing by opening access to data held by government agencies, for example statistics on port and terminal performance (held by port authorities), the flow of goods into and out of Australia (Australian Bureau of Statistics and Australian Border Force) or freight and use of transport infrastructure (State and Australian transport departments). Benefit could also be provided through the creation and maintenance of systems through which stakeholders interact with government and access data insights. Improving national digital infrastructure could also indirectly assist in improving stakeholder digitalisation and data generation practices. However, each of these initiatives would involve significant costs and would have to provide public benefit that outweigh these costs.

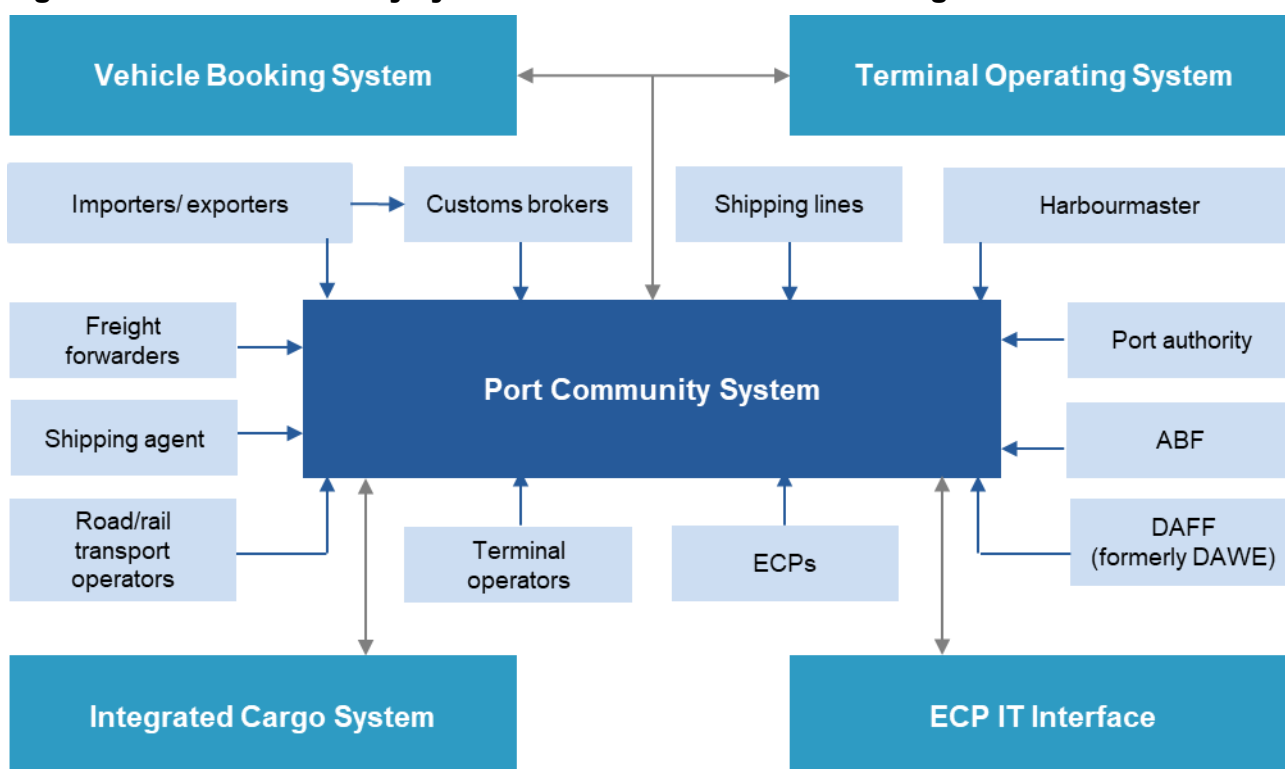
Australian and state governments have commenced initiatives to increase access to private and public sector data while improving the processes by which this data is collected — the National Freight Data Hub being developed by the Australian Government is one example. Though nascent, these initiatives will complement existing sources of data and could drive future innovation.

Document exchange systems are well established

Document exchanges underpin the flow of cargo from sellers to buyers, certifying that cargo complies with regulations or has been received by a party within the logistics chain. Digitisation and digitalisation⁵ mean documents are now typically provided in electronic data interchange formats and ICT systems can facilitate document exchanges — improving system efficiency.

Port community systems (PCS) enable public and private stakeholders to upload documents to a single online platform and share access with other supply chain participants (figure 15). A PCS can also host other ICT systems, such as a single window system (which allows a cargo owner or their customs agent to submit their documents for government agency approval to a web portal) and a vehicle booking system (which allows terminal operators to allocate slots for landside operators to book for un/loading cargo).

Figure 15 – Port community systems facilitate document sharing^a



a. ABF: Australian Border Force; DAFF: Department of Agriculture, Fisheries and Forests (formerly DAWE: Department of Agriculture, Water and the Environment); ECP: Empty Container Park.

Use of digitalisation in Australia's major ports appears to be broadly in line with other countries' initiatives.

While some inquiry participants suggested that government should coordinate a national PCS, a number of commercial document and information sharing options are offered around the world and used in Australia. These systems continue to be developed through the adoption of new technologies. Implementing a

⁵ Digitisation refers to the conversion of physically recorded information to electronically readable and transmittable formats. This is contained within digitalisation, which refers to the adoption of digital technologies which change how a business operates.

government-run PCS would risk adding further administrative costs for users in the maritime ICT landscape. That said, there may be a role for government in facilitating interoperability standards across ICT platforms.

Cargo and vessel clearance systems are a work in progress

A range of regulatory requirements must be cleared before goods can enter or leave Australia to ensure vessels and cargo are compliant with Australia's biosecurity laws and customs regime.

While reviews over the years have led to some investments to improve clearance systems, inquiry participants expressed frustration with some biosecurity and customs procedures. Issues raised included: extensive delays in inspection appointments and approvals; the paper-based process for booking biosecurity inspections and the administrative complexity; and duplication of information required by government departments.

Cargo and vessel clearance systems are convoluted and challenging for stakeholders to use, with repetition in data entry and outdated ICT systems. A taskforce established by the Australian Government is working to address these issues through a suite of reforms. To be successful, these reforms will require the elimination of duplicative application processes, adequate resourcing for the departments performing clearances and a stable 'single window' ICT platform that can integrate with a PCS.

National shipping concerns

Amendment of coastal shipping regulation is recommended

Carriage of domestic cargo between interstate ports by foreign flagged vessels (or cabotage) is regulated by the Australian Government with the aim of shielding Australian flagged (or registered) ships from competition from foreign vessels.

All vessels providing interstate cargo services are required to hold a licence. General licences (issued to Australian registered and crewed vessels) are issued for up to five years with no restrictions on coastal trading. In contrast, temporary licence holders (foreign-owned vessels or Australian-owned vessels operating with a mix of Australian and international crew) must undertake at least five voyages during the 12-month licence period and specify the details of each voyage when applying. General licence holders providing competing services can challenge approval of a temporary licence and the Minister for Infrastructure, Transport, Regional Development and Local Government (or their delegate) must consider that challenge when deciding whether to grant the licence.

In 2018-19, over 75 per cent of interstate coastal freight (by weight) was carried under temporary licences.

Submissions to this inquiry suggest that the regulatory regime remains an issue. Most maintained that the inflexibility and cost imposed mean coastal shipping is uncompetitive with road, rail and international shipping. There was support for simplification of regulation to ease the administrative burden, remove impediments and increase options for supply chain resilience, with some suggesting that the uncompetitive position of domestic shipping has driven increased substitution of international products for Australian domestic production to the detriment of the Australian economy.

However, other submissions argued for a broadening of the regulatory regime to strengthen crewing and workplace relations compliance on vessels and to reduce the reliance on global suppliers for shipping services. While the proposals had a strong focus on safety and resilience, there was little discussion of how proposed measures would contribute to the global competitiveness of Australia's maritime logistics system or what economic costs and benefits regulatory protections provide to the broader Australian public.

In the Commission's view, there is a strong case for reform to allow greater competition from foreign vessels. This would provide more cost-effective shipping services for Australian users. The temporary licence system should be streamlined and general licence holders' ability to contest approval of temporary licences should be limited. Requirements that Australian labour laws apply for licence holders should be retained.

Establishing and maintaining a strategic fleet would be a complex undertaking

In October 2022 the Australian Government announced the creation of a Strategic Fleet Taskforce to assess current and future shipping needs. The taskforce is the first step in the Government's commitment to establishing a national strategic fleet with the objectives of strengthening economic sovereignty and improving national security. The terms of reference ask the taskforce to provide advice on the establishment of a fleet of up to a dozen trading vessels that would be privately-owned, commercially operated and Australian-registered, but available for use in times of national crisis or conflict.

The terms of reference require an initial needs assessment be completed by December 2022. A final report containing recommendations on the structure of the fleet and changes to regulatory frameworks, along with an assessment of the fleet's impacts on related industry, economic and government policy objectives, is due by June 2023.

In November 2022 the taskforce released a discussion paper noting that establishment of the strategic fleet would have to contend with a number of complicated issues:

- disruptions to supply chains vary in scale from local to regional and potentially global, and as that scale increases, effective responses become more complex and costly
- the scale and breadth of Australia's maritime trade task — incorporating an array of users, capacity demands and trade routes — mean that interactions between parties within the sector are varied and intricate
- cost differentials exist between Australian and foreign-flagged vessels, while the strategic fleet aims to be cost neutral to the industry and to users of shipping.

A similar range of issues were raised in submissions this inquiry and examined in the Commission's draft report.

Key observations from the Commission's analysis include that:

- a strategic fleet may not significantly mitigate any issues of shipping capacity that might arise in the future. First, disruptions can occur to different types of shipping at different times. A strategic fleet would be unlikely to cover all of these disruptions with sufficient capacity. Second, the strategic fleet would likely face the same disruptions as other commercial shipping operations
- it is unlikely that vessel owners would be profitable in normal circumstances. Owners would need subsidies in order to compete globally on commercial terms and as compensation for the costs and risks associated with having to make their vessels available if requisitioned in times of need.

The Commission's draft report noted a number of alternative solutions to the issues raised by inquiry participants.

Capacity could be acquired as needed from the international market without the costs involved in supporting a strategic fleet. The shipping charter market provides access to a wide variety of vessels that could be used to address specialist case-by-case needs. And the Australian Government could access international resources — including the charter market — in response to natural disasters and emergencies. Exemptions to licencing requirements for international vessels in response to the flooding of the East–West rail line in 2022 that allowed carriage of domestic cargo illustrate one way in which international capacity can be accessed.

Alternatively, the Australian Government could use financial instruments to underpin capacity that could be drawn down in times of crisis. For example, the government could write options contracts with large cargo owners or with shipping lines to 'buy out' their capacity in times of great need.

Recent experience has also shown that the international shipping sector is responsive to changes in Australian demand. Since the COVID-19 pandemic began, the level of international containerised trade has grown to record levels and container shipping lines have introduced new services to Australia despite ongoing high global demand for capacity. More generally, in a global market such as shipping, domestic resilience would be facilitated by removing unnecessary barriers to entry for international operators.

A strategic fleet is likely to involve significant operational costs, but much less significant sunk capital costs because there is an international market for vessels. Therefore, any decision surrounding a strategic fleet is likely to be reversible at relatively low cost. This means that the associated benefits to Australian consumers, costs to taxpayers and contributions to skills acquisition should be regularly assessed. On balance, the Commission does not find a need for a government supported commercial strategic fleet. There appear to be more cost effective ways to address issues of maritime capacity and potential shortages of skilled seafarers. However, if the fleet is established, frameworks for periodic review of its performance against its objectives and of government support should be instituted and reviews should be undertaken every two years.

Recommendations and findings

The performance of Australia's container ports



Finding 3.1

The framework for measuring Australian container port performance could be enhanced

A comprehensive framework for measuring port performance would include data on the time taken to move containers through each of the key steps between ship and port gate. Comparison of these time-based metrics across ports would reveal where operations in a port are relatively inefficient. Other performance measures could then be used to understand *why* these relative inefficiencies exist. Data on landside and labour productivity would also need to be obtained to enable a comprehensive analysis.



Finding 3.2

Container port productivity increased in the last 30 years

Measured by crane rates (container movements per hour that cranes are operating), productivity at Australia's major container ports (Brisbane, Sydney, Melbourne, Adelaide and Fremantle) rose strongly in the late 1990s following significant waterfront reforms, and continued to grow at a slow pace over the following two decades.



Finding 3.3

Evidence suggests that Australian ports could lift their productivity

The World Bank's benchmarking revealed Australian container ports take longer than many international ports to turn around ships (particularly medium to larger vessels — that is, those with a capacity of more than 5000 twenty-foot equivalent units). The Commission found slower turnaround times mainly reflected the use of fewer quay cranes to handle containers — Australian cranes, when operating, are as productive as those in the average international port.

The Commission's benchmarking identified a 'best practice' set of ports — those that were using their inputs most efficiently. Apart from Adelaide, Australian ports were operating between 10 and 30 per cent below this 'efficient frontier'; they could handle an increase in throughput by using their capital inputs more efficiently on the quayside.

The Commission's work also revealed the importance of considering port inputs in performance analyses. The World Bank's benchmarking did not account for the fact that some ports have access to relatively high levels of capital and can use those inputs to turn ships around faster. These ports have an excessive level of investment for their current level of throughput. The underutilisation of capital that stems from this is inefficient even if it means that these ports can turn ships around quickly.

On balance, the empirical evidence from comparisons of port performance suggests that there is scope for Australian container ports to improve their productivity. For example, productivity could be improved by reducing the variability in crane rates and achieving more consistent *high* crane rates.



Finding 3.4

Improving container port productivity would deliver significant benefits

Inefficiencies at Australia's major container ports are estimated to directly cost the Australian economy about \$600 million a year. While this impost is small relative to the value of goods imports and exports, it is significant. And it is rising with growth in container trade.

Ports also have large indirect impacts on Australian businesses, consumers and the economy. Any sustained disruption to imports or exports has the potential to cause larger economic impacts than the direct cost estimates suggest.

Well-functioning, efficient container ports help to ensure the reliability of the maritime supply chain and logistics systems more broadly.

Australia's container ports have market power



Finding 5.1

Privatisation in New South Wales has impeded efficient outcomes

Privatisation processes in New South Wales conferred protection on port lessees that are impeding economically efficient outcomes in the development of the state's ports system.



Finding 5.2

Major container ports are currently regional monopolies and face little countervailing power

Major Australian container ports in the short to medium term may involve a natural monopoly technology, where a single port can best serve the relevant market. However, this situation may not hold over time as demand is increasing and space for expansion is constrained. Indeed, it is far from clear that it is economically efficient to have a single container port in some Australian cities including Melbourne and Sydney either today or in the near future.

There is little countervailing power from either shipping lines or container terminal operators constraining the use of market power by port operators at Australian container ports.



Finding 5.3

No case has been found for further regulation

In the case of shipping lines, prices for services provided by ports are typically monitored (or face the threat of further regulation). The Commission received few complaints about port pricing to shipping lines, consistent with this regulation acting as a constraint on the ability of each port to exercise market power over the shipping lines.

In the case of tenants, given only one container port has been found to be exercising market power there is no case for tighter regulation at this time on all ports. The threat of further regulation appears to be constraining the conduct of ports operating under 'light-touch' regulatory regimes (Brisbane, Botany and Adelaide). The mechanisms that exist in Queensland, New South Wales and South Australia that enable closer regulatory oversight if concerns arise about ports' use of their market power appear to be adequate. For the Port of Melbourne, the current arrangement of reviewing the port's adherence to the Tenancy Customer Charter alongside land rents in 2025 appears to be a next logical step in addressing issues around the port exercising its market power over tenants.

Competition issues in other markets need attention



Finding 6.1

Competition is robust in the market for shipping lines' services

There appears to be robust competition in the shipping line market. Multiple shipping lines service Australia and cargo owners can easily switch between them. Prior to the COVID-19 pandemic, terminal handling charges charged to cargo owners by shipping lines were not declining despite these charges to shipping lines from container terminal operators declining. But blue-water charges fell markedly. When assessing shipping costs levied on cargo owners it is important to consider the total costs rather than just looking at components.



Recommendation 6.1

Repeal Part X

The Australian Government should repeal Part X of the *Competition and Consumer Act 2010* (Cth) (CCA).

- No other industry has an exemption like Part X, even though there are industries with similar characteristics to the shipping industry.
- Shipping lines should show that their agreements provide a net public benefit.
- Either a class exemption or the existing provisions under Part VII of the CCA could deal with shipping line agreements under a net public benefit test once Part X is repealed.



Finding 6.2

Shipping lines have increasing bargaining power in the provision of quayside cargo services

Greater competition between container terminal operators and consolidation of shipping lines over the past decade have increased shipping lines' bargaining power relative to container terminal operators. This has contributed to declining quayside revenue for container terminal operators.



Finding 6.3

Container terminal operators have exercised their market power on the landside

Container terminal operators have exercised their market power by increasing fees and charges to transport operators. These increased fees and charges will be passed on to cargo owners and, for imports, to Australian consumers

**Recommendation 6.2****Implement a mandatory industry code**

Treasury should develop a mandatory container terminal operator code that would be administered and enforced by the Australian Competition and Consumer Commission (ACCC). The code should include that:

- all landside fees should only be changed once a year with container terminal operators required to simultaneously notify a regulator of planned changes
- the ACCC should have the authority to reject increases if it considers them to be unjustified
- if an increase is rejected, an operator cannot propose an alternative change in a charge
- the ACCC's decision of whether an increase is justified should use 1 December 2022 as the baseline
- the ACCC should collect any metrics it needs to form a view on whether proposed increases are reasonable, for example on the level of revenue raised by an operator from incentive-based fees and on landside performance (only metrics that do not reflect an operator's commercial position should be made public)
- there should be an annual report to transport ministers and the Treasurer which includes analysis of any unintended consequences of the regulatory regime
- consideration be given to any penalties that might be required to support enforcement of the obligations under the code.

The code should be evaluated after a period of five years by an independent body.

**Recommendation 6.3****Remove exemption for shipping contracts**

Shipping contracts should not be exempt from the unfair terms provisions in Australian Consumer Law. The Australian Government should remove this exemption.

Infrastructure needs are being addressed

**Finding 7.1****Port expansions to accommodate bigger container ships do not need taxpayer funding**

Australian container port operators and other parts of the maritime logistics system continue to prepare for bigger ships as needed and there is no need for government intervention to fund or otherwise coordinate investment or encourage the use of bigger ships.



Finding 7.2

Most container ports are planning substantial investments in rail infrastructure

Container port operators in Brisbane, Sydney, Melbourne and Fremantle plan to increase the share of freight travelling to and from those ports by rail over the coming decades. Good process will see cost–benefit analysis before any further government investment in rail to service container ports. Such analysis would capture likely externalities and take into account alternative scenarios for the development of truck technology over the economic life of the project.



Finding 7.3

Planning systems should allocate land around ports to highest value uses

Urban encroachment is an issue at all of Australia's major container ports except Brisbane. Industrial land around some ports is gradually being redeveloped for higher value commercial and residential uses and this can create conflict with some port users. Once non-market costs and benefits are accounted for, planning decisions that support the use of land in its highest value will maximise benefits to the community.



Finding 7.4

Long term planning appears to be adequate

All state governments have freight and transport strategies that include consideration of future port infrastructure needs. Compelling evidence has not been presented that more plans are required or that existing plans will not be implemented.

Workforce arrangements: framework



Finding 8.1

Unions hold substantial bargaining power

Conditions in container terminal operations, together with the workplace relations framework, confer significant — and unbalanced — bargaining power on unions.

Workforce arrangements: issues



Finding 9.1

Restrictions on merit-based hiring and promotion harm workers and productivity

There are substantial restrictions on merit-based hiring, promotion and training within container terminal operations. These restrict fair and reasonable access for workers who are qualified, but not currently employed by the specific container terminal operator. They also harm existing terminal workers by precluding them from jobs that best fit their skills and preferences, and create undue hurdles for potential container terminal workers. Overall, the clauses act to constrain productivity.



Finding 9.2

Limits to the number of workers with flexible rosters are inefficient

Limits on the number of casual workers and other workers with flexible rosters (permanent guaranteed wage employees) who can be employed in container terminals create barriers to the efficient allocation of labour, which will flow through to the productivity of container terminals.



Finding 9.3

'Order of pick' rules limit backfilling and restrict productivity

Strict rules determining the 'order of pick' which specify which workers can be engaged first for a task are limiting terminal operators' capacity to backfill positions. This impedes operators' ability to allocate labour to its most productive use and can mean one absence has an outsized effect on the productivity of a terminal.



Finding 9.4

Container terminal enterprise agreements distort operators' ability to automate

Container terminal enterprise agreements contain terms which substantially restrict or disincentivise operators from introducing further automation. These clauses, reflected in mandated consultation lengths and, for some operators, the requirement for employee or third party (such as an independent panel or Fair Work Commission) consent, appear to go beyond equivalent clauses in other industries or the model consultation term in the *Fair Work Act 2009* (Cth).



Recommendation 9.1

Prohibit enterprise agreement content that imposes excessive constraints on productivity in container ports and costs on the supply chain

The Australian Government should amend the *Fair Work Act 2009* (Cth) to introduce a short list of unlawful terms in enterprise agreements in container ports. The list should aim to prohibit excessive constraints on:

- merit based hiring, promotion and training
- the number of casual workers and other workers with flexible rosters
- strict rules determining the 'order of pick'
- innovation and workplace change.



Finding 9.5

New mechanisms have been added to the Fair Work Act to seek to address lengthy bargaining across the economy

Negotiations over recent agreements for container terminal operators involved lengthy and overlapping bargaining periods, creating costs for participants and third parties.

The changes the Government made to the *Fair Work Act 2009* (Cth) in December 2022 seek to address protracted bargaining across the economy through additional intervention by the Fair Work Commission. The changes seek to assist with resolving and ultimately arbitrating disputes over enterprise agreements if bargaining has crossed clear time thresholds and the Fair Work Commission views the bargaining as intractable.



Finding 9.6

Extensive protected industrial action in container ports during recent bargaining caused disruption and impacted productivity in container terminals

Disruption and, to some extent, reduced productivity are an expected consequence for bargaining parties of protected industrial action. But high levels of protected industrial action in container ports over an extended period during the recent bargaining round translated into markedly lower productivity at affected container terminals.



Finding 9.7

Protected industrial action in container ports caused substantial disruption and economic costs to third parties in the supply chain

The integration of container terminal operators in the supply chain means that protected industrial action in container ports has an outsized impact on importers, exporters and other third parties. The extent and seriousness of protected industrial action seen during recent bargaining in container ports resulted in substantial economic harm to these third parties.

**Recommendation 9.2****Courts should be provided more discretion to apply proportionate fines on unlawful industrial action**

The Australian Government should amend the *Fair Work Act 2009* (Cth) to increase the maximum penalties for unlawful industrial action to a level that allows federal law courts the discretion to impose penalties that can better reflect the high costs that such actions can inflict on employers and the community.

**Recommendation 9.3****Add options for protected industrial action by employers to the Fair Work Act**

The Australian Government should amend the *Fair Work Act 2009* (Cth) to allow employers to engage in more graduated forms of protected industrial action in response to employee industrial action. Forms of employer response action that should be permitted could include:

- instituting limits or bans on overtime (analogous to employee overtime bans)
- directing employees to only perform a particular subset of their normal work functions and adjusting their wages accordingly (analogous to employee partial work bans)
- reducing hours of work (analogous to employee work stoppages).

Employers should also be able to choose to either deduct wages or continue to pay employees for protected industrial action which lasts for less than 15 minutes.

Where an employer restricts employees' work duties or hours of work, employees should be permitted in response to refuse to perform any work (as is currently the case for employers with respect to employee partial work bans).

Graduated forms of protected industrial action by an employer would still count as employer response action and be subject to employee response action and potential suspension or termination by the Fair Work Commission.

**Finding 9.8****Employer responses to highly disruptive negotiations are limited to lockouts**

The Government's changes to the *Fair Work Act 2009* (Cth) in December 2022 narrowed the grounds on which the Fair Work Commission can terminate an agreement on application by employers. This will mean that employers can no longer use the prospect of employee pay and entitlements reverting to the award as a tactic in enterprise bargaining. Until the intractable bargaining criteria have been met, employers essentially have only one industrial action response to highly disruptive employee claim action — locking out employees.



Recommendation 9.4

Make it easier for employers in container ports to extend the notice period for protected industrial action

The Australian Government should amend the *Fair Work Act 2009* (Cth) to lower the threshold for applications to extend the mandatory three day notice period for protected industrial action to seven days for operators in container ports to enable employers to better prepare for industrial action.



Recommendation 9.5

Make it possible to suspend or terminate industrial action that could cause 'important or consequential' economic harm

The Australian Government should amend the *Fair Work Act 2009* (Cth) to clarify that when determining whether to suspend or terminate industrial action under s. 423, s. 424 or s. 426, the Fair Work Commission should interpret the word 'significant' as 'important or of consequence'.



Recommendation 9.6

Allow a broader range of third parties to apply to terminate protected industrial action occurring in container ports

The Australian Government should amend the *Fair Work Act 2009* (Cth) to widen the range of third parties who can make applications to suspend or terminate protected industrial action under the Act for operators in container ports, to include entities, for example, with an interest but who may find it difficult to show they are directly affected (such as employer associations, employee organisations or third parties like importers/exporters).



Recommendation 9.7

Enable protected industrial action to be suspended or terminated when it is causing harm to either party, rather than both

The Australian Government should amend s. 423(2) of the *Fair Work Act 2009* (Cth) such that the Fair Work Commission may suspend or terminate protected industrial action where it is causing, or threatening to cause, significant economic harm to the employer or the employees who will be covered by the agreement, rather than harm to both parties (as is currently the case).

**Recommendation 9.8****Equip the Fair Work Commission for an extended role in the ports**

To enable the Fair Work Commission to perform an enhanced role in supervising bargaining and resolving workplace disputes in the ports, it should (supported by amendments to the *Fair Work Act 2009* (Cth) where necessary):

- establish a fast-track process for dealing with applications involving port employers and employees and their representatives
- ensure members with requisite skills, experience and standing are available to deal with cases in the ports fast-track stream
- enable more decision-making by full benches to assist consistency of decision making
- be resourced appropriately to give effect to these recommendations.

The Fair Work Act should also be amended to require input from employers and employee representatives in the selection of Fair Work Commission members dealing with port matters, with the objective of identifying nominees who have the confidence of employers and employees.

**Recommendation 9.9****Independent evaluation of changes to improve workplace relations in the ports**

If the recommendations in this chapter are introduced, the Australian Government should commission an independent evaluation of the state of workplace relations in Australian ports after the new arrangements have been in operation for five years. The purpose of the evaluation would be to make an evidence-based assessment of productivity and efficiency outcomes following the introduction of the changes proposed to the workplace relations system.

Skills and training raise few productivity concerns

**Finding 10.1****Port workers appear to acquire the skills they need**

The combination of accredited and unaccredited training that delivers skills and training for port workers seems to be largely functioning well.

**Finding 10.2****If they arise, skills shortages for seafarers can be solved through immigration and industry-led solutions such as cadetships**

There is no strong evidence of skills shortages in the maritime logistics system.

Skills shortages can, and have been, addressed through targeted immigration and industry-led initiatives such as cadetships, without additional government intervention.

Australian ports are adopting technology where desirable



Finding 11.1

Technology use at Australia's major container ports is in line with international practice

There is no 'best' level of automation and ICT adoption for container terminal productivity and Australia's major container terminals have implemented varying degrees of both automation and ICT adoption, in line with internationally comparable ports.

However, automation can lead to a range of benefits including improved safety, reliability and consistency of terminal operations.



Finding 11.2

There is no case for a government-run port community system

Australia's maritime sector relies on a combination of private ICT systems that facilitate the sharing of documents and allow cargo to flow efficiently through the maritime logistics chain. These systems continue to be developed through the adoption of new technologies that increase their safety and usability. While there may be a role for government in facilitating common data definitions and interoperability standards, implementing a government-run port community system would risk adding further administrative costs for users in the maritime ICT landscape without corresponding benefits.

Ongoing support from the Australian Government towards developing seamless interfaces between customs and biosecurity systems and private port community systems is fundamental to realising future supply chain productivity.



Finding 11.3

Government overhaul of cargo clearance systems would deliver ongoing benefits to the supply chain

The Australian Government's cargo and vessel clearance systems are convoluted and challenging for stakeholders to use, with repetition in data entry and outdated ICT systems. A government taskforce is working to address these issues. Successful reform will require the elimination of duplicative application processes, adequate resourcing for the departments performing clearances and a stable 'single window' ICT platform that can integrate with privately operated port community systems.

Two national shipping concerns



Finding 12.1

Coastal shipping regulation impedes competition

There is a strong case for reform to coastal shipping regulation to allow greater competition from foreign vessels on domestic sea routes. This would result in more cost-effective shipping services for Australian users. Opportunities to improve competition lie in a streamlining of processes for the temporary licence system and revision of limitations on general licence holders' ability to contest approval of temporary licences. Australian labour laws remain applicable for the carriage of coastal cargo.



Recommendation 12.1

Amend coastal shipping laws to increase competition

The Australian Government should amend coastal shipping laws to:

- streamline the temporary licence system to increase operational flexibility and reduce the administrative burden on licence applicants
- retain, but limit, the ability for Australian vessel operators to contest the granting of licences to foreign vessels
- maintain the current application of the *Fair Work Act 2009* (Cth) in coastal shipping
- review conditions for Australian registration of vessels to encourage increased international competition.



Recommendation 12.2

Frameworks for periodic review of the strategic fleet's performance against its objectives should be instituted

On balance, the Commission does not find a need for a government-supported commercial strategic fleet. There appear to be more cost-effective ways to address issues of maritime capacity and potential shortages of skilled seafarers. However, if the Australian Government establishes a strategic fleet, then it should also establish frameworks for periodic review of the fleet covering:

- commercial and competitive performance of the fleet
- skills, training and labour supply outcomes
- ongoing levels of support, including any subsidies
- regulatory settings, including changes in market demands for shipping services.

Reviews should be conducted at least once every two years.