



Container stevedoring monitoring report 2016-17

October 2017





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Glossary and abbreviations

ABS	Australian Bureau of Statistics
ACCC	Australian Competition and Consumer Commission
Berth	A ship's allotted space in a stevedore's container terminal.
BITRE	Bureau of Infrastructure, Transport and Regional Economics
CCA	<i>Competition and Consumer Act 2010</i>
CPI	Consumer Price Index
Crane intensity	Crane intensity is the total number of allocated crane hours divided by the elapsed time from labour first boarding the ship to labour last leaving the ship. Crane intensity is an input to calculating 'net crane rate' and 'ship rate'.
Crane rate	Crane rate is an indicator of capital productivity and reflects the intensity to which quayside cranes are worked. It is measured by dividing the total number of containers (TEUs) handled by the crane by the 'elapsed crane time'.
DP World	DP World Australia Ltd, jointly owned by DP World (25 per cent) and Citi Infrastructure Investors and PSP Partners (75 per cent).
EBITA	Earnings before interest, taxation, and amortisation
Elapsed crane time	Elapsed crane time is the crane time allocated by the stevedores. It is computed as the total allocated crane hours less operational and non-operational delays. Elapsed crane time is an input to calculating the 'crane rate'.
Elapsed labour rate	Elapsed labour rate is an indicator of labour productivity. The elapsed labour rate is computed as the 'number of containers handled' divided by the 'elapsed labour time'.
Elapsed labour time	Elapsed labour time is the elapsed time between labour first boarding the ship and labour last leaving the ship, less any time the labour has not worked, including non-operational delays. Elapsed labour time is an input to calculating 'elapsed labour rate'.
Empty container park	Companies whose business is to store empty containers. They may also provide ancillary services such as container cleaning, repairs and repositioning.
Flinders Adelaide	Flinders Adelaide Container Terminal Pty Ltd, fully-owned by the South Australian port operator, is the sole container stevedore at Port Adelaide
GDP	Gross Domestic Product
Hutchison	Hutchison Ports Australia, a member of Hutchison Port Holdings Group
Infrastructure charge	Charges imposed by stevedores on land transport operators when collecting or dropping off full containers.
Land transport operators	Truck or rail operators under contract with shippers to transport container goods from the stevedores' container terminals to the shipper and vice versa.
Landside productivity	Indicators measuring the efficiency of landside operators in handling the freight task
Monitored port	Ports which under Part VIIA of the CCA are subject to price, cost and profit monitoring by the ACCC; covers the container ports of Adelaide, Brisbane, Burnie, Fremantle, Melbourne, and Sydney.

Operating profit	Measured by earnings (revenue less cost) before interest, taxation and amortisation.
Patrick	Patrick Terminals, jointly owned by Qube Holdings (50 per cent) and Brookfield Infrastructure Partners (50 per cent).
Profit margins	In this report, this is the ratio of EBITA and total revenue.
Quayside productivity	Indicators measuring the efficiency of stevedoring factors of production such as capital and labour.
Real terms	A value expressed in the money of a particular base time period (e.g. 2012-13 dollars). Values in real terms remove the impact of inflation and provide a better comparison of values over time.
Ship rate	The ship rate is an indicator of labour and capital productivity while the ship is being serviced by stevedores. It is calculated by multiplying the net crane rate by crane intensity.
Shippers	Importers and exporters that initiate the transport of their containerised goods on ships.
Shipping lines	Under contract to shippers, these are companies that transport containerised cargo using specialist ships from one port to another. Shipping lines are the primary customers of stevedores.
Stevedores	Firms under contract with shipping lines and port authorities to operate specialist equipment that lift containerised cargo on and off ships in Australia's monitored container ports.
Tangible assets	The physical infrastructure used by stevedores to provide container stevedoring services e.g. cranes, straddle carriers or automated stacking cranes.
TEU	20 foot equivalent unit. TEU is the standard unit of measurement for shipping containers. One TEU is equivalent to one 20 foot shipping container. One 40 foot shipping container is equivalent to two TEUs.
VBS	Vehicle Booking System is used to manage the landside flow of containers in and out of Australia's major container ports.
VICT	Victoria International Container Terminal Ltd, wholly owned by International Container Terminal Services Inc.

Executive summary

Stevedoring throughput grew to record levels

Volumes of containers handled by stevedores at Australia's container ports grew by 3.7 per cent to 7.2 million TEUs in 2016-17, the highest ever recorded. During this period, Sydney was Australia's largest stevedoring port.

Increased competition at the east coast ports have contributed to Australia's two largest stevedores, DP World and Patrick, recording their lowest ever combined shares of containers handled, however they still dominate the market.

Three stevedores now operating at each of the east coast ports

With the commencement of operations by Victoria International Container Terminal (VICT) at the Port of Melbourne in early 2017, there are now three stevedores at each of the east coast ports for the first time. The increased competition will help shipping lines negotiate better prices and potentially drive better service from the terminal operators through investment. The additional capacity also provides shipping lines with a wider choice of berthing windows.

VICT has invested \$550 million in its new terminal at Melbourne's Webb Dock. The terminal's high levels of automation is likely to be a key feature as it helps the terminal to both operate around the clock and avoid the labour disputes that have historically characterised the industry. VICT has also taken advantage of the greenfield nature of its investment by implementing various innovations in its design.

It is now a critical time for competition in the industry. For sustainable competition to develop, new entrants Hutchison and VICT will need to go further than pushing the incumbents Patrick and DP World to lower prices in the short term and win a substantial share of the market. It has not proven easy for Hutchison in Sydney and Brisbane. VICT's ability to accommodate larger sized ships, thanks to its location at the mouth of the Yarra River, may prove to be a key competitive advantage into the future.

Unit revenues continue to fall

Revenue per TEU, a proxy for price, continued to fall across the industry in 2016-17. Total revenue fell 2.0 per cent to \$169.7 per TEU, while stevedoring revenue fell 4.5 per cent to \$138.8 per TEU. This has continued a very consistent trend which now sees unit stevedoring revenue at a level which is about a quarter less than a decade ago in real terms.

Competition and the accompanying expansion in capacity at some ports has no doubt played a role in this trend. However, this also reflects newly merged shipping lines wielding greater bargaining power, the increasing use of the larger 40 foot containers, and falling unit costs over time due to higher productivity.

Profit margins increased

The industry's profit margins, as measured by EBITA over total revenue, increased by 4.0 percentage points to 17.1 per cent in 2016-17 on account of a 6.3 per cent fall in overall costs. Reductions in costs were largely driven by increased economies of scale and reduced overhead expenses by stevedores, particularly Hutchison.

New infrastructure charges raise a number of issues for the port supply chain

DP World and Patrick either introduced or substantially increased 'infrastructure charges' at a number of container terminals this year. The charges apply to truck or rail operators dropping off or collecting laden containers.

It is estimated that they could earn DP World and Patrick a combined \$70 million in revenues, which would be equivalent to a 5-6 per cent increase in unit revenues. However, the ACCC is currently unable to fully quantify the increase in revenues given that the charges have not been in place for the full year. The ACCC will more fully examine the impact of the infrastructure charges in the 2017-18 monitoring report.

There has been a lot of controversy with different views on whether the charges are justified and how they will impact on the sector. The stevedores have said that the charges are required in response to increasing costs and in order to fund investment in infrastructure. There is merit to the stevedores' claims that property costs are increasing. However, overall unit costs for both stevedores remain stable. The ACCC will be interested to see what benefits will flow to truck and rail operators as a result of the associated investment.

It appears that a key reason for the charges is for the stevedores to restructure their revenues away from their shipping line customers, and towards the transport sector. It remains to be seen how this may impact transport operators, although it is concerning that the nature of the port supply chain means they are limited in being able to switch stevedores in response to higher prices.

Some organisations approached the ACCC with allegations that the new infrastructure charges may have been in contravention of the provisions of the *Competition and Consumer Act 2010*. However, most of the concerns were that the price increases were excessive, but there are no provisions in the Act to deal with excessive pricing.

Quayside productivity growth has been stagnant

Quayside productivity remains close to record levels, however growth has been stagnant. In 2016-17, capital productivity decreased by 1.7 per cent to 29.2 containers per hour, labour productivity decreased by 1.1 per cent to 46.5 containers per hour, while multifactor productivity was flat at 55.6 containers per hour. Australian quayside productivity levels continue to lag levels achieved in comparable countries.

Landside productivity indicators show mixed outcomes

The size of the landside freight task increased in 2016-17 in line with the increase in the volumes of containers handled. The number of trucks increased at container terminals, however truck productivity measures were mixed: average truck turnaround times improved by 30 seconds to 29.9 minutes, but the average number of containers per truck continued to decrease. The modal share of rail in transporting freight continued to increase at most ports.

Shipping lines merging in response to continued downturn in global shipping

The shipping industry has sought to consolidate in response to ongoing difficult financial conditions. Almost every major shipping line has been impacted, whether through merger, changed alliance or bankruptcy. Stevedores have reported that the larger shipping lines emerging from this restructuring have been able to use their stronger bargaining power to secure more favourable rates.

For shippers, the downturn and overcapacity within the industry has led to significantly cheaper rates for the transportation of goods overseas. However, the benefits are likely to

lessen over time as the consolidation within the industry sees a reduction in shipping competition and possibly the frequency of services.

Ports and stevedores preparing for larger sized ships

The size of container ships visiting Australian ports continues to grow. This trend is being driven by shipping lines launching their largest new ships on the big freight routes between Europe, Asia and North America, with a cascading effect on smaller routes such as those to Australia. However, Australian ports appear to be well placed to be able to handle larger ships in the future with modest investment.

Container stevedoring

ACCC Container stevedoring monitoring report 2016-17



Revenues, costs and profits per TEU*

Revenues
\$169.7
 ▼ 2.0%

Costs
\$140.7
 ▼ 6.8%

Operating profits**
\$28.9
 ▲ 25.7%

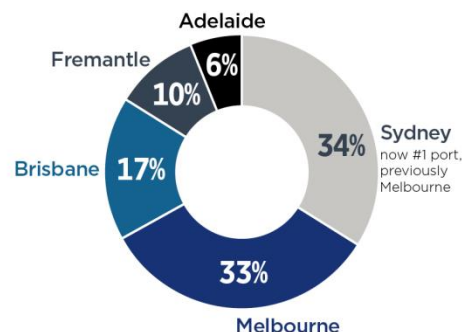
Operating profit margin**
17.1%
 ▲ 4.0 p.p.

*Stevedoring and other activities. **Earnings before interest, tax and amortisation. EBITA as a percentage of revenue.

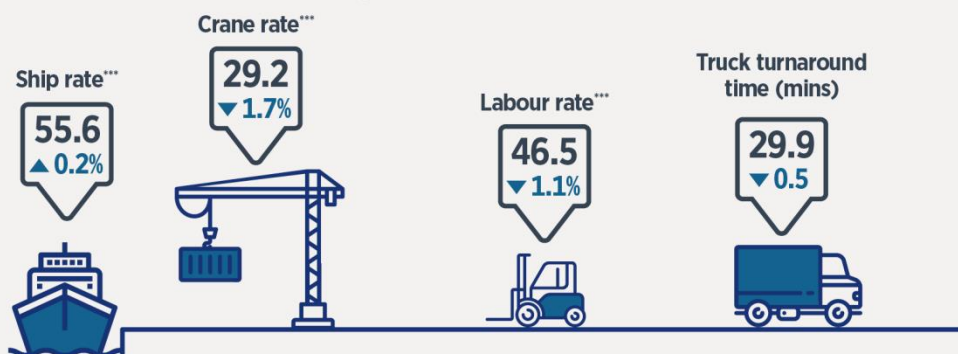
Container volume per stevedore (TEUs)



Volume per port



Container terminal productivity



*** Containers per hour.

Photo © Victoria International Container Terminal 2017. Photo supplied by Victoria International Container Terminal Limited.

1. Introduction

Container ports are vital pieces of infrastructure for any country. For an island country such as Australia, they take on even greater importance.

Many billions of dollars of consumer goods are transported through Australian ports every year on their journey to Australian households and workplaces. Imported goods are often key inputs for Australian businesses. In the other direction, Australian products set off on ships every day for export markets in places such as Asia, Europe and North America.

This dynamic means that the efficiency of the port supply chain, including the container stevedores that lift the containers on and off the ships, has a direct bearing on the cost of products in Australia, as well as the international competitiveness of Australian exports.

This is the 19th Container Stevedoring Monitoring report by the Australian Competition and Consumer Commission (ACCC). The ACCC is required by the government to monitor prices, costs and profits of the container stevedores at the ports in Adelaide, Brisbane, Burnie, Fremantle, Melbourne and Sydney. These reports provide information to governments and the community about the operating performance of the container stevedores, as well as the level of competition, investment and productivity in the industry.

The ACCC also uses these reports to provide commentary on relevant developments or matters relating to the broader container freight supply chain.

We acknowledge the cooperation of the following organisations in the production of this report:

- container stevedores DP World, Flinders Adelaide, Hutchison, Patrick and VICT
- the Bureau of Infrastructure, Transport and Regional Economics (BITRE) and
- the various shipping lines, ports and industry associations with which we met during consultations.

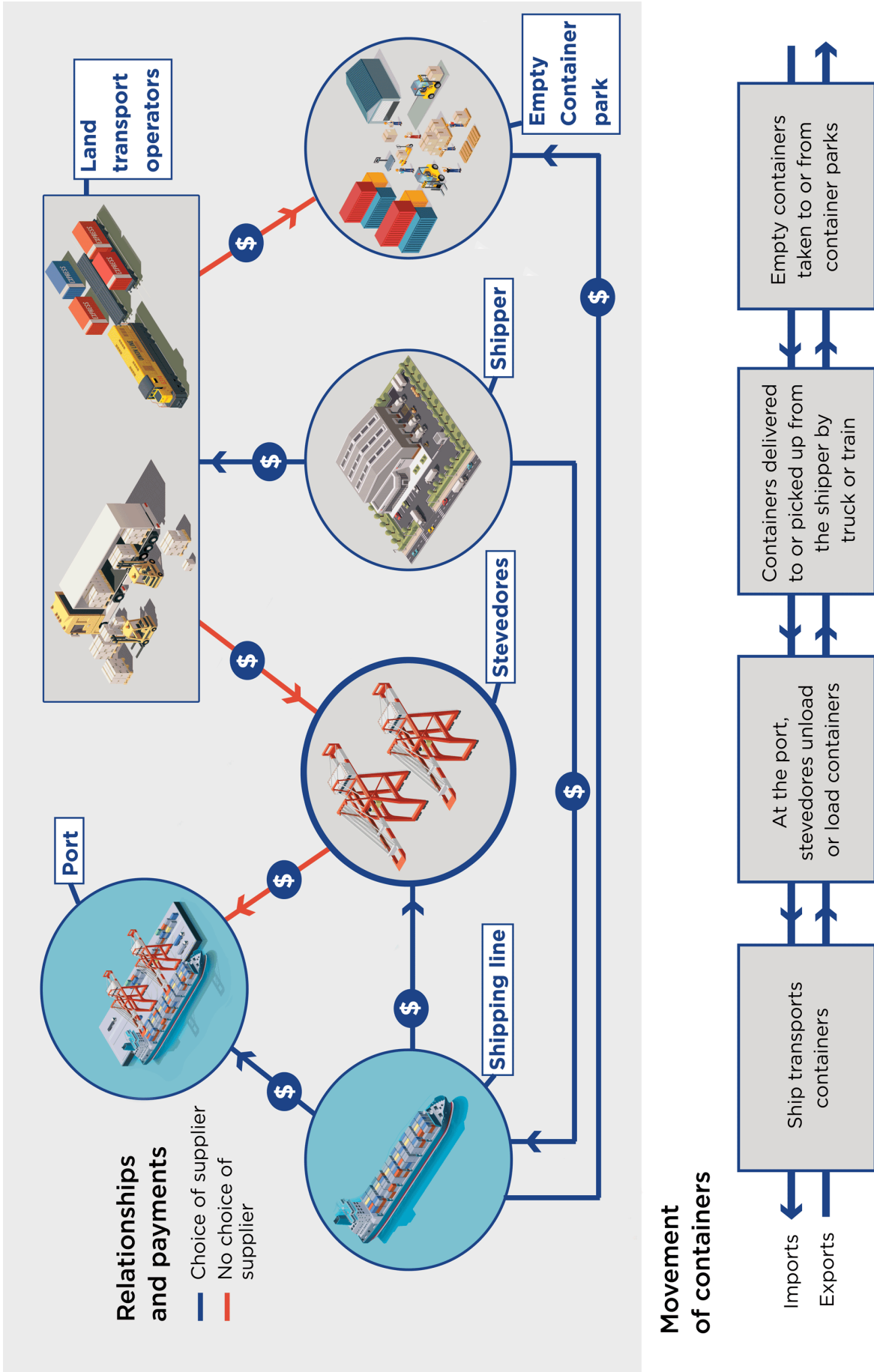
1.1. Stevedoring and the container supply chain

Container stevedores are responsible for lifting containers on and off container ships at specialised ports. Ship-to-shore cranes are used to move the containers on and off the ships, while straddle cranes are used to move the containers to storage areas or directly on to trucks or trains. Stevedores lease the berthing and yard space from ports on long term contracts.

Stevedores are part of the broader container supply chain which moves containerised freight from its point of origin to its final destination. However, many other parties play a role in the container supply chain. These include shipping lines, importers and exporters (or 'shippers'), road and rail transport operators, logistics service providers, intermodal terminal operators, port operators, empty container park operators and governments.

The container supply chain begins with a shipper selecting a shipping line to transport goods from the origin to the destination port. Shipping lines in turn choose a stevedore to load or unload the containers at the port. The transport operator (rail or road) is selected by the shipper and is responsible for picking up and dropping off containers from the port. Intermodal terminals are also sometimes used to change modes of transport (e.g. from road to rail or from regional trains to port shuttles).

Figure 1.1 – Container supply chain



The main aspects of the container supply chain are illustrated in Figure 1.1. The top half of the diagram shows the interaction of the various parties involved in the supply chain. Blue lines indicate that there is some degree of choice in the supplier of the service, while red lines indicate that the acquirer of the service does not have such choice. This lack of choice may be because there is only a single supplier available, or that the choice of supplier is made by another party along the supply chain. The bottom half of the diagram looks at the physical flow of containerised goods (whether imported or exported) along the supply chain.

1.2. The ACCC's container stevedoring monitoring program

Part VIIA of the *Competition and Consumer Act 2010* (CCA) provides for the Australian Government to direct the ACCC to monitor prices, costs and profits in a particular industry and report its findings to the relevant Minister. In fulfilling this role, the ACCC must have particular regard to the following matters:

- the need to maintain investment and employment, including the influence of profitability on investment and employment
- the need to discourage a person who is in a position to substantially influence a market for goods or services from taking advantage of that power in setting prices and
- the need to discourage cost increases arising from increases in wages and changes in conditions of employment inconsistent with principles established by relevant industrial tribunals.

In 1998, there was a protracted labour dispute between Patrick Stevedores and the Maritime Union of Australia. Following the introduction of a workplace reform package by the Australian Government, the government directed the ACCC to monitor the prices, costs and profits of container stevedores and provide a report to the Minister every financial year.¹

Given the environment of the time, the initial purpose of the monitoring regime would have been to assess the impact of the reforms and to monitor the potential for wage-driven cost increases. Since then, the ACCC's reports have focused more on the degree of competition between the stevedores, investment and productivity improvements. The program also explores issues affecting the broader supply chain, including road and rail connections to container terminals.

ACCC monitoring can help inform government policy with respect to a particular industry. It is often used in relation to industries for which government may have some concerns about the lack of competition. In certain circumstances, the combination of monitoring and a credible threat of regulatory intervention by the government may help to prevent companies from exercising market power.

Relevant sections of Part VIIA are reproduced in Appendix B. The Ministerial direction setting out the ACCC's monitoring function is at Appendix C.

¹ On 20 January 1999, the Federal Treasurer directed the ACCC under s. 27A of the *Prices Surveillance Act 1983* (PSA) to monitor prices, costs and profits of container terminal operator companies at the ports of Adelaide, Brisbane, Fremantle, Melbourne and Sydney. The PSA has since been repealed and the price surveillance provisions are now contained in Part VIIA of the CCA. The direction under the former s. 27A of the PSA is now deemed a direction under s. 95ZE of the CCA.

1.3. The structure of this report

The remainder of this report is structured as follows:

- Chapter 2 provides an overview of the Australian stevedoring industry and explores relevant developments and policy issues that relate to the port supply chain
- Chapter 3 examines the throughput and productivity of the stevedoring industry
- Chapter 4 analyses the financial monitoring results of the industry as a whole
- Chapter 5 presents company-specific data from the four stevedoring businesses that provided data for this report
- Appendix A provides further information about the ACCC's monitoring methodology
- Appendix B reproduces relevant sections of Part VIIA of the CCA; and
- Appendix C outlines the Ministerial direction for the ACCC's container stevedoring monitoring role.

Supplementary information on trends in industry revenue, cost and operating profits, and on specific cost categories for each of the stevedores can be found on the [ACCC website](#).

2. Industry overview and broader supply chain developments

2.1. Overview

This chapter looks at the structure of the Australian stevedoring industry and how that is translating into competition between terminal operators. It will also look at notable developments within the stevedoring industry and along the broader freight supply chain.

Key issues explored include:

- how it is a critical time for competition in the stevedoring industry with three terminal operators in Brisbane, Sydney and now Melbourne with the launch of VICT
- the new infrastructure charges being imposed by DP World and Patrick on transport operators and what this means for the freight supply chain
- the consolidation amongst shipping lines in response to difficult financial conditions and
- the increasing size of container ships visiting Australia's ports.

2.2. Critical time for competition in the Australian stevedoring industry

As for any other sector of the economy, the pressure for stevedores to reduce prices, identify productivity improvements and respond to the needs of their customers will depend to a large degree on the level of competition they face. If a business fails to do these things in a competitive market, they will lose customers to their rivals.

The nature of stevedoring means that there cannot be many suppliers at any particular city. There is only one container port in Sydney, Brisbane, Fremantle and Adelaide, and there is limited berth space at each of these ports.² The need to invest in significant infrastructure such as ship-to-shore cranes, and the economies of scale inherent in such investment, also means that it would be inefficient to have many stevedores operating out of the one port.

An efficient port supply chain involves a balancing of these two factors: not too many stevedores that it leads to inefficient operations, but enough so that the competitive pressure between them will see operators pass efficiencies on to customers in the form of lower prices.

Throughout the 19-year history of the ACCC's monitoring program, two firms, currently known as Patrick and DP World, have dominated the supply of container stevedoring services. These two firms essentially shared the market evenly in all container ports other than at Adelaide, where DP World Adelaide and later Flinders Adelaide have operated the only terminal.

Despite the limited competition, the industry significantly improved its performance during the 2000s and 2010s. Box 2.1 sets out how differently the industry's output looks today compared to when the ACCC first began monitoring in 1998-99 after the government's waterfront reforms.

² The Port of Melbourne has container terminal facilities in two locations: Swanson Dock in West Melbourne and Webb Dock in Port Melbourne.

Box 2.1: Improved industry performance since monitoring began in 1998-99

The ACCC began monitoring the container stevedoring industry in 1998-99. The ACCC's monitoring program was introduced at the time of the Australian government's reform package for the waterfront, which set benchmarks agreed to by the stevedores to improve productivity and reduce costs across the waterfront supply chain.

The chart below shows the difference in performance of the stevedoring industry between 1998-99 and 2016-17.

	1998-99	2016-17
Stevedores	2	5
Container volumes (TEU)	1.6 million	7.2 million
Net crane rate (containers per hour)	19.6	29.2
Elapsed labour rate (containers per hour)	22.4	46.5
Revenues per TEU (index)	100	57
Costs per TEU (index)	100	54
Operating profit margin (EBITA/revenue)	12.1%	17.1%
Return on assets (EBITA/average tangible assets)	10.6%	8.3%

Competition has improved over the past four years in certain ports as a third container terminal operator has entered the market. Hutchison commenced operations at Brisbane in January 2013 and at Sydney in November 2013, breaking the long-held duopoly of Patrick and DP World. This entry has benefitted shipping lines through the ability to negotiate better pricing, new investment by the incumbents, and a wider choice of berthing windows at each port.

The latest stage of this expansion in competition was seen in 2016-17 when VICT commenced operations at the Port of Melbourne (see Box 2.2). This now means there are three competing stevedores at each of the three largest container ports in Australia.

However, it is now a critical time for the industry as we see whether these new operators can fully establish themselves as sustainable operations. It has not proven easy for Hutchison, which is yet to secure more than 6 per cent of national container volumes. These low volumes also mean that it is operating at much higher unit costs than Patrick or DP World. In 2015, Hutchison's then acting CEO Mark Jack went so far as to state that '[t]he third operator policy is not viable in the immediate future but hopefully we can work with all stakeholders to ensure the viability of the container terminal industry on the east coast over the longer term'.³

³ Jennifer Hewett, 'Over generous conditions at Hutchison Ports are punishing the whole sector', *Australian Financial Review*, 8 October 2015

There was some good news for Hutchison in 2016-17 when it was able to secure part of the lucrative contract with the A3 consortium. The A3 consortium comprises shipping lines OOCL, ANL, and COSCO Container Lines and links the east coast of Australia with Asia. While DP World will account for the majority of the 750,000 containers in the contract, Hutchison will benefit greatly from the 170,000 containers it will receive.⁴ Shipping lines will no doubt be watching to see how Hutchison delivers on this service.

Just as important will be whether VICT can make inroads into the dominance of DP World and Patrick at the Port of Melbourne. For sustainable competition to develop, it will need to go further than pushing the incumbents to lower prices in the short term and win a substantial share of the market. Until VICT can start getting significant volumes through its terminal, it will be operating at a notable unit cost disadvantage to its competitors. This is because it faces very high fixed costs associated with both its decision to fully automate its terminal, as well as the much higher rents it faces from the Port of Melbourne.⁵

VICT has yet to secure a regular shipping service since it commenced operations in early 2017. However, it is still early days and industry stakeholders have expressed optimism for its future. The fact that the terminal has high levels of automation is likely to be a key feature as it helps the terminal to both operate around the clock and avoid the labour disputes that have historically characterised the industry. VICT has also taken advantage of the greenfield nature of its investment by implementing various innovations in its design.

Another advantage of VICT is one which is likely to become critical in years to come. While DP World and Patrick operate out of Swanson Dock on the Yarra River, VICT's terminal is at Webb Dock at the river mouth. This location is much more conducive for handling the larger sized ships that are increasingly being adopted by shipping lines around the world (see section 2.6). In contrast, the West Gate Bridge and a relatively small turning basin prevent ships of a certain size reaching the terminals at Swanson Dock. This could turn out to be a key competitive advantage for VICT into the 2020s.

Box 2.2: VICT commences operations at the Port of Melbourne

Stevedoring competition has been enhanced at the Port of Melbourne with the commencement of operations of VICT.

In 2014, VICT won an international bidding process to secure the stevedoring lease at Webb Dock from the Port of Melbourne. The agreement gave VICT the rights to design, build and operate the new container terminal. VICT has the right to operate until 2040.

VICT is owned by International Container Terminal Services, Inc. (ICTSI). ICTSI is headquartered in the Philippines and operates, manages, and develops 30 container terminals in 20 countries, including the United States and China.

VICT is being funded through a \$550 million investment. The development is staged over two phases. Phase 1 was completed in December 2016 and Phase 2 is currently being implemented. The terminal currently has two 330 metre berths and a total of five 65 metre tall neo-Panamax cranes. VICT estimates that its current capacity is one million standard containers per year.

VICT estimates that when the terminal is fully developed it will have a total of eight Neo-Panamax cranes and be able to handle up to 1.8 million standard containers per year. It also predicts that, with

4 Michael Smith, 'DP World battle-ready for Patrick after A3 win', *Australian Financial Review*, 21 September 2016.

5 John Dagge, 'Port of Melbourne's robo-dock', *Herald Sun*, 6 October 2016.

optimal design and configuration, the terminal will be able to handle 8,000-12,000 TEU ships.

VICT's automation is designed for around the clock operation, with minimal labour costs.⁶ VICT has five neo-Panamax ship-to-shore cranes and ten stacking blocks, which enable single large vessels to be handled with four to five cranes.

VICT conducted its first service in April 2017, with the Mediterranean Shipping Company's E.R. Longbeach. VICT received 2,792 boxes, with the presence of 1,997 trucks. Average truck turnaround time was 28 minutes from in-gate to job completion.⁷

2.3. Revenue per TEU continues to fall

Revenue per TEU, a proxy for prices, continued to fall across the industry in 2016-17. Unit stevedoring revenue, a proxy for prices charged on shipping lines, fell by 4.5 per cent to \$138.8 per TEU. This has continued a very consistent trend which now sees unit stevedoring revenue at a level which is about a quarter less than a decade ago in real terms. Further exploration of changes in unit revenues can be found in section 4.2.2.

Competition and the accompanying expansion in capacity at some ports has no doubt played a role in this trend. Industry stakeholders have advised the ACCC that the market entries by Hutchison and more recently by VICT have pushed the incumbents into offering discounted rates to maintain their volumes.

However, there are also other factors at play in the falling unit revenues for stevedoring activities:

- Shippers are increasingly using 40 foot containers instead of 20 foot containers. Stevedores typically charge a similar amount per lift regardless of the size of the container, therefore a higher ratio of 40 foot containers will reduce revenues on a per TEU basis.
- The consolidation of shipping lines (see section 2.6) has increased their bargaining power with the stevedores, with newly acquired smaller shipping lines now attracting the lower rates that apply to its broader ownership group.
- Unit costs have fallen over the last decade as a result of productivity improvements and the economies of scale associated with higher container volumes.

Partly as a response to declining stevedoring revenue from shipping lines, stevedores have increasingly sought to generate revenue from non-stevedoring activities. Revenue from non-stevedoring activities currently accounts for around 18 per cent of total revenue (up from 16 per cent in 2015-16). However, it is expected that non-stevedoring revenue will increase significantly in the future following the decision of some stevedores to implement new or higher infrastructure surcharges on landside operators. This is discussed further in section 2.4.

When both stevedoring and non-stevedoring⁸ revenues are included, revenue per TEU only fell by 2 per cent in 2016-17 to \$169.7 per TEU. This means that the falls in stevedoring revenues still offset the increases in non-stevedoring revenues.

6 Anders Dommestrup, 'ICTSI is delivering a world-class facility at Webb Dock', Shipping Australia, 2016, https://shippingaustralia.com.au/wp-content/uploads/2012/07/SAL_Autumn_2016_WEB_Update.pdf, p. 52.

7 Tony Desira, 'Automated terminal up and running', Victorian Transport Association Priority Report, 2017, <http://www.vta.com.au/wp-content/uploads/2017/05/VTA-Priority-Report-Autum-2017-65.pdf>, p. 14.

8 Non-stevedoring revenues include those associated with infrastructure charges, as well as from vehicle booking system charges, container storage fees, etc.

2.4. New ‘infrastructure charges’ raise issues for the port supply chain

Australia’s two largest stevedores, DP World and Patrick, either introduced or substantially increased ‘infrastructure charges’ at a number of container terminals this year. The charges apply to truck or rail operators dropping off or collecting laden containers and are in addition to charges that are levied on shipping lines for loading and unloading containers.

Infrastructure charges have been in place for all three stevedores at the Port of Brisbane for a number of years. DP World and Patrick also had an infrastructure charge in place in Melbourne, albeit a much smaller amount.

However, in April 2017, DP World significantly increased its charge in Melbourne from \$3.45 per container to \$32.50. It also introduced an infrastructure charge of \$21.16 in Sydney. Many industry observers predicted that Patrick would follow suit and it did. Patrick went further by introducing a small charge in Fremantle, but DP World later announced a charge of its own at the port in September 2017. Table 2.1 shows that both stevedores now have infrastructure charges between \$21 and \$33 in the three largest ports, with smaller charges in Fremantle.

Table 2.1: DP World and Patrick infrastructure charges by port

	DP World		Patrick	
	Current (\$)	Previous (\$)	Current (\$)	Previous (\$)
Brisbane	32.74	32.74	32.55	28.75
Melbourne	32.50	3.45	32.00	3.50
Sydney	21.16	Nil	25.45	Nil
Fremantle	8.22	Nil	4.76	Nil

The new charges were received with strong criticism from transport operators. Organisations such as Container Transport Alliance Australia, Australian Peak Shippers Association and the Freight and Trade Alliance met with the ACCC regarding the charges. These organisations considered that the stevedores’ behaviour may have been in contravention of provisions of the *Competition and Consumer Act 2010*, such as misuse of market power, unconscionable conduct and unfair contract terms. The ACCC did not identify any breach of the Act in relation to the charges. Most of the concerns were that the price increases were excessive, for which there are no provisions in the Act.

However, the new charges raise a number of issues for the port supply chain. These are explored below.

2.4.1. Stated reasons for the new infrastructure charges

Both DP World and Patrick said the new charges were implemented because of increased operational costs, as well as the need to invest in infrastructure to meet emerging challenges such as increased ship sizes and improving landside infrastructure. The ACCC sought and received more detailed explanations for the charges.

DP World said that higher rent, land tax and council rates at its Port of Melbourne and Port Botany terminals have increased the cost of occupancy by more than 60 per cent since 2016.⁹ Patrick said power and utility costs had increased by 45 per cent at Port Botany and 50 per cent at Port of Melbourne, and that rent had increased by 140 per cent due to privatisation.¹⁰

It does appear that property costs are increasing at container ports. Chapter 5 of this report shows that property costs have been trending upwards for both DP World and Patrick, and are now more than 50 per cent higher than when the index began in 2007-08. There are also reasons why these cost indices are likely to be higher again next year. In recent years the ACCC has voiced its concerns about state governments privatising ports without appropriate regulatory oversight for future price increases.

However, Chapter 5 of this report shows that despite the rising property costs, overall unit costs for both stevedores are stable.

There is also a question whether Patrick is already experiencing the increase in port lease charges. NSW Ports responded to Patrick's new infrastructure charge at Port Botany by saying that its rental structures with Patrick were negotiated prior to privatisation and that the stevedore is paying slightly less rent per square metre than it was four years ago.¹¹ Furthermore, Patrick is still only in negotiations with the Port of Melbourne regarding its future rent so it cannot know for sure what rent it will be paying in the future.¹²

The ACCC will be able to more fully examine the impact that the new infrastructure charges have on the two stevedores' revenues when it receives data for the 2017-18 monitoring report. However, it can be estimated that the new infrastructure charges may generate around \$70 million in additional revenues for the two stevedores. This would be equivalent to a 5-6 per cent increase in unit revenues, which demonstrates the significance of this development.

It also appears that revenue from the new charges is likely to more than offset cost increases associated with terminal rents, government taxes and rates identified by DP World and Patrick. That places greater importance on the terminal operators' other stated reason for the charge: investment in infrastructure. If infrastructure charges are also used to fund planned capital expenditure on new infrastructure, it is likely that there will be minimal (if any) net gains to DP World and Patrick from the imposition of the new infrastructure charges.

As discussed in section 2.5, DP World has made a number of investments in straddle and stacking cranes in 2016-17. Both DP World and Patrick are looking to replace quay cranes in 2017-18, although it may be expected that the benefits will be felt at the waterside rather than landside. Over the next few years, the ACCC will be interested to see whether the stevedores will be able to demonstrate clear infrastructure improvements for transport operators above and beyond business-as-usual capital works.

2.4.2. Impact of the charges on transport operators

The transport industry has been vocal in its criticism of the new infrastructure charges. The Victorian Transport Association (VTA) said the charge will 'impact significantly on the

9 Brian Gillespie (Chief Commercial Officer, DP World Australia), 'DPWA defends infrastructure levy changes' DP World Australia, Sydney, 2017, <http://www.dpworldaustralia.com.au/news-and-media/media-releases/article-dp-world-australia-defends-infrastructure-levy-changes/>.

10 Glenda Korporaal, 'Patrick hikes port charges, blames privatisation, power costs', *The Australian*, 10 June 2017.

11 NSW Ports, 'NSW Ports statement re Port Botany stevedore rents', Media Release, 21 June 2017, <https://www.nswports.com.au/news/article/nsw-ports-statement-re-port-botany-stevedore-rents>.

12 Lucille Keen, 'Rent struggle erupts at Port of Melbourne', *Australian Financial Review*, 4 July 2016.

transport industry in terms of cost, profit margins and other economic variables'.¹³ When DP World first announced the move, Road Freight NSW said that some of its members 'stood to lose up to \$150,000 per year'.¹⁴ Container Transport Alliance Australia (CTAA) criticised DP World for 'announcing the surcharges with little consultation with the landside logistics sector, and with less than a month's notice'.¹⁵

The VTA explicitly urged its members to minimise the impact by passing the charge directly on to customers.¹⁶ However, transport associations advised the ACCC that many operators would not have this choice because of fixed contracts and/or the lack of bargaining power with the shipper. The Chairman of the Western Australian Port Operations Task Force claimed that the affected transport operators are 'soft target[s]' with no choice about absorbing the charges.¹⁷

Transport operators will also be impacted by the need to carry the debt associated with the infrastructure charges while they wait 30 days or more for their customers to pay invoices. In this respect, some transport associations recognised the move by Patrick to extend its payment terms from seven to 30 days.¹⁸

2.4.3. Stevedores restructuring revenues away from shipping lines

Aside from whether the new infrastructure charges reflect increasing costs, the move also represents a strategic decision by the stevedores to earn more of their revenues from landside operators instead of shipping lines.

In some ways, this restructuring of revenues is not a new development. As explored in Chapter 4, the past decade has seen stevedoring revenues decline by 25 per cent per TEU, while other revenues have increased by 15 per cent. However, the new infrastructure charges will strongly amplify this trend.

The stevedores may be responding to pressures for reduced rates for shipping lines because of a number of factors. Shipping lines have been facing difficult economic conditions for a number of years, and the industry consolidation in response has likely increased the bargaining position of the shipping lines (see section 2.6). Furthermore, both DP World and Patrick would also be mindful of the risk of losing business to the market entrants in Brisbane, Sydney and now Melbourne.

To some degree, the controversy regarding the charges has arisen because it is a clear departure from the traditional model where the container terminals seek to recover virtually all of their costs from the shipping lines. However, it could be argued that it is reasonable for stevedores to more evenly balance their cost recovery from both of their key stakeholders, particularly as much of the investment by the stevedores is made in order to facilitate the activities of the transport sector. DP World has said that waterside and landside stevedoring

13 Victorian Transport Association, VTA urges operators to pass on Patrick infrastructure surcharge increases, media release, Victorian Transport Association, 9 June 2017.

14 Anjali Behl, 'Patrick to impose 'infrastructure surcharges' from July 10', Australian Transport News, 9 June 2017, www.fullyloaded.com.au/industry-news/1706/patrick-to-impose-infrastructure-surcharges-from-july-10

15 Container Transport Alliance Australia, 'DP World infrastructure surcharges in Melbourne and Sydney a massive cost impost on landside operators and shippers', media release, 7 March 2017.

16 Victorian Transport Association, 'VTA urges operators to pass on Patrick infrastructure surcharge increases', media release, 9 June 2017.

17 Statement to the ACCC from the Chairman of the West Australian Port Operations Task Force, Mr. Graeme Wilson.

18 Anjali Behl, 'Patrick to impose 'infrastructure surcharges' from July 10', Australian Transport News, 9 June 2017, www.fullyloaded.com.au/industry-news/1706/patrick-to-impose-infrastructure-surcharges-from-july-10

charges may be separate in the future, which it argues would provide shipping companies and transport companies greater transparency about quayside and landside costs.¹⁹

A key issue raised by this scenario is that transport operators are less able to respond to stevedore prices than shipping lines. Shipping lines can place their service up for tender and choose the best stevedore in terms of pricing and service offering. In contrast, the nature of the container supply chain is such that transport operators do not get to choose the stevedore at which to pick up or drop off their container. Instead, transport operators are instructed to go to a particular stevedore by the shipper, who in turn follows advice by their chosen shipping line.

The consequence of this arrangement is that any price increase imposed upon the transport sector (i.e. through the infrastructure charge) is unlikely to lead to as much lost business for the stevedore than if it instead increased prices for its shipping line customers. Any loss of business would need to occur through transport companies encouraging their shipper customers to choose shipping lines that deal with stevedores that offer reduced infrastructure charges or no charge at all. Even this type of response to the infrastructure charges is difficult given that:

- the shipping lines may be receiving subsidised services as a result of the higher infrastructure charge, which means they are less likely to want to agree to move to a stevedore with no (or a lower) infrastructure charge
- shipping lines typically operate in consortium and may use a number of stevedores based on decisions made by other members of the consortium and
- with both DP World and Patrick imposing the charge, there is limited or no scope for choosing a stevedore at a port that does not have an infrastructure charge.

2.4.4. Likely overall impact on importers and exporters

Ultimately costs along the container supply chain are borne by importers and exporters, and their final consumers of their goods. While it is likely that the new infrastructure charges will result in shippers paying more to transport goods, this will depend on a number of factors.

- *Subsidisation of revenues from shipping lines*

It is possible that the revenues being collected from the transport operators are simply replacing revenues that used to be collected from shipping lines. The reduction in stevedoring revenues (i.e. from shipping lines) was larger than the increase in other revenues (i.e. including the infrastructure charges) in 2016-17, but this is unlikely to be the case in 2017-18 when the new charges are in place for a full year.

- *The ability of shipping lines and transport operators to pass on costs*

Even if the net revenues collected by the stevedores do not change as a result of the infrastructure charges, shippers may end up paying more or less depending on whether the transport industry is better or worse equipped than the shipping industry to pass on the costs to their customers.

- *The ability of transport operators to respond to price movements*

As discussed, transport operators do not get to choose the stevedore for a particular job and therefore are less able to switch providers in response to higher prices. This may see stevedores charge higher prices than if they were still earning almost all of their revenues from shipping lines.

¹⁹ Brian Gillespie (Chief Commercial Officer, DP World Australia), 'DPWA defends infrastructure levy changes' DP World Australia, Sydney, 2017, <http://www.dpworldaustralia.com.au/news-and-media/media-releases/article-dp-world-australia-defends-infrastructure-levy-changes/>.

- *Potential productivity improvements from landside investment*

If the infrastructure charges are used to improve landside infrastructure, there could potentially be cost savings for transport operators that offset some or all of the charge.

Some analysts have argued that the financial impact is small relative to the total cost of container shipping, despite the significant percentage increase in existing infrastructure charges. For example, by one estimate, it costs around \$2000 to move a container from China to an Australian warehouse (which includes estimates of shipping rates, road/rail transport fees and stevedoring charges).²⁰ On this basis, the infrastructure levy in Melbourne equates to less than 2 per cent of the cost of moving a container.²¹

2.4.5. Conclusion

The new infrastructure charges are a significant development for the container freight supply chain. They could earn DP World and Patrick a combined \$70 million in revenues, which would be equivalent to a 5 to 6 per cent increase in unit revenues.

There has been a lot of controversy with different views regarding whether the charges are justified and how they will impact on the sector.

There is merit to the stevedores' claims that property costs are increasing. However, overall unit costs for both stevedores remain stable.

It appears that a key reason for the charges is for the stevedores to restructure their revenues away from their shipping line customers and towards the transport sector. It remains to be seen how this may impact transport operators, however it is concerning that they are limited in being able to switch stevedores in response to higher prices. The ACCC will examine more fully the effects of the infrastructure charge on the container supply chain in next year's container stevedoring monitoring report.

2.5. Investment

Industry assets have increased substantially in recent years as a result of investment by new entrants to develop terminals in Melbourne, Sydney and Brisbane. Over this time, the incumbent stevedores have also been investing in automation, cranes and other equipment. These investments have significantly increased the capacity of east coast ports, as well as driven productivity improvements for the benefit of shipping lines, transport operators and shippers.

The major stevedoring investment that occurred in 2016-17 was associated with the establishment of VICT's fully automated container terminal at Webb Dock at the Port of Melbourne. This investment is detailed in Box 2.2.

DP World advised the ACCC that 10 straddle cranes were delivered to its Melbourne terminal in 2016 as part of its asset renewal plan. It also commissioned two additional automatic stacking cranes for Brisbane to complement the 14 existing machines. It expected that these stacking cranes will increase terminal handling capacity by 14 per cent and enable more efficient transfer of containers to transport companies.

Patrick said that it undertook only minor investment, while Hutchison reported minor investments mainly associated with additions to its shuttle carrier and reach stacker fleet. Flinders Adelaide also reported minor investment, as it considers that investments made

²⁰ Ben Butler, 'Patrick's freight surcharge will hit consumers, truckies warn', *The Australian*, 13 June 2017.

²¹ Ibid.

since 2012 have provided the terminal with considerable capacity to accommodate future volume growth.

Advice from the stevedores suggests that investment may pick up in 2017-18. DP World will be bringing in nine waterside quay cranes across all of its terminals. Three each will go to Sydney and Melbourne, two will go to Brisbane and one will go to Fremantle. These cranes will be to both replace some cranes and to add to the current stock. The equipment is intended to meet the demand from the upsizing of vessels by shipping lines and to increase the productivity of its landside operations. DP World has also ordered 20 new straddle carriers for its Melbourne terminal and four rubber tyred gantries for its Sydney terminal. These gantries are the yard equipment that receive and deliver containers from transport operators and transfers containers between the quay cranes and road/rail.

In 2017-18, Patrick plans to replace waterside quay cranes at Melbourne, Brisbane and Fremantle.

2.6. Downturn in global shipping leading to industry consolidation

A continued downturn in the global shipping industry contributed to further consolidation between shipping lines in 2016-17. The downturn was described as the worst in 30 years by the US Federal Maritime Commission.²² By the end of 2016, the Baltic Dry index (an industry measure for bulk commodity carrier freight rates) had fallen 95 per cent from its 2008 peak.²³ Global shipping lines are projected to report a loss of \$5.2 billion in earnings before interest and taxes.²⁴ These difficult conditions are expected to continue for some years, albeit with recent signs that the worst is over.

There are two main causes of these conditions. First, the slow growth in world GDP following the Global Financial Crisis has resulted in fewer containerised goods being transported around the world, causing an oversupply of ships and placing downward pressure on freight rates. Second, this oversupply problem has been exacerbated by shipping companies ordering new larger ships in order to obtain greater efficiencies, especially following an overly optimistic outlook of trade recovery from the GFC.

A key indicator of the scale of these changes is that in November 2016 there were just 16 big competitors dominating the global shipping industry, down from 25 in 2011.²⁵ The number of major container shipping alliances has also been reduced from four to three.

We have seen the following recent developments with respect to the consolidation of the global shipping industry:

- shipping group CMA CGM finalised its acquisition of Singapore's Neptune Orient Lines in June 2016
- the collapse of the Korean shipping group Hanjin in September 2016, which left \$14.5 billion of goods stranded on 66 ships left out to sea, as ports refused entry out of concern for not being paid²⁶
- the announcement in October 2016 of the merger between the Japanese shipping lines Nippon Yusen KK, Mitsui O.S.K. Lines, and Kawasaki Kisen Kaisha (K Line)
- in April 2017, agreement was reached for shipping line Maersk to acquire Hamburg Sud

22 Costas Paris, 'Shipping industry consolidation raises US fears of price gouging', *The Australian*, 9 November 2016.

23 *The Economist*, 'Profits overboard', 10 September 2016.

24 Kyunghee Park, 'Asia's shipping lines are facing more mergers', *Bloomberg Markets*, 4 January 2017.

25 Costas Paris, Shipping industry consolidation raises US fears of price gouging, *The Australian*, 9 November 2016.

26 *The Economist*, 'Profits overboard', 10 September 2016.

- Hapag Lloyd completed its merger with United Arab Shipping Co in May 2017 and
- COSCO made a takeover bid for Hong Kong's Orient Overseas International (OOCL) in July 2017, which would create the world's third biggest shipping group after Maersk and MSC.²⁷

Three major shipping alliances have also received worldwide regulatory approval.²⁸ These are:

- the OCEAN Alliance between CMA CGM, Cosco Group, OOCL and Evergreen Marine
- the 2M Alliance between Maersk and Mediterranean Shipping, and
- The Alliance between Hapag Lloyd, K Line, Mitsui O.S.K. Line, Nippon Yusen Kaisha and Yang Ming.

These three new alliances now cover almost three-quarters of the global container shipping market,²⁹ and move more than 95 per cent of world cargo.³⁰ The alliance agreements allow members to share ships, book and exchange space on each other's ships, and enter cooperative working agreements.

2.6.1. Implications for Australia

The downturn in global shipping and the industry consolidation in response have a number of implications for Australia.

For shippers, the downturn and overcapacity within the industry has led to significantly cheaper rates for the transportation of goods overseas. However, the benefits are likely to lessen over time as the consolidation within the industry sees a reduction in competition. The combination of larger ships and fewer lines also means that shipping line schedules are likely to become less frequent for shippers over time. A key rationale for the new alliances is that shipping lines are achieving efficiencies by combining routes and sending fewer ships.

Consolidation within the shipping industry also impacts on stevedores. Shipping alliances are likely to have increased bargaining power in negotiating new stevedoring contracts, as stevedores compete for business from fewer players and the relative value of each contract increases. The ACCC also understands that as newly merged entities negotiate their new contracts, it is common for all shipping lines within the group to receive what had previously been the lowest rate amongst them. This means that stevedores are losing some of their higher margin contracts with smaller shipping lines.

The reduction in competition between shipping lines was considered by the US Federal Maritime Commission (FMC) and the Department of Justice's Antitrust Division.³¹ The FMC was concerned that the alliances could use collective bargaining power to hurt domestic businesses, including stevedoring services, through jointly negotiating and procuring services,³² and required these concerns to be addressed before approving the alliances.³³

27 Jenny Wiggins, 'DP World deepens ties with COSCO as Chinese shipper snaps up competitors', *Australian Financial Review*, 10 July 2017.

28 Commissioner William P. Doyle, 'Prepared Remarks: Commissioner William P. Doyle U.S. Federal Maritime Commission for National Retail Federation's International Trade Advisory Committee and Strategic Supply Chain Council', 16 January, 2017, https://www.fmc.gov/doyle_prepared_remarks_national_retail_federation/.

29 *The Economist*, 'Profits overboard', 10 September 2016.

30 Costas Paris, 'Shipping industry consolidation raises US fears of price gouging', *The Australian*, 9 November 2016.

31 The Federal Maritime Commission Newsroom, 'Commission to discuss regulatory reform initiative & ocean carrier alliances', Federal Maritime Commission, 26 May 2017, <https://www.fmc.gov/NR17-11/?pg=1>.

32 Commissioner William P. Doyle, 'Prepared Remarks: Commissioner William P. Doyle U.S. Federal Maritime Commission for National Retail Federation's International Trade Advisory Committee and Strategic Supply Chain Council', 16 January, 2017, https://www.fmc.gov/doyle_prepared_remarks_national_retail_federation/.

The consolidation provides both an opportunity and a threat for new stevedores Hutchison and VICT. Shipping mergers are resulting in new corporate entities which require new stevedoring contracts in advance of when the previous contracts had been due to expire. These changes in stevedoring contracts have presented an opportunity for Hutchison and VICT to secure contracts that would not otherwise have hit the market. However, there has not been much evidence of this in practice to date.

The threat associated with the consolidation for the newer stevedores is that there will be fewer contracts to be shared around. Hutchison and VICT may therefore be vulnerable to missing out on one of the few large contracts, making it a further challenge for them to reach an efficient scale.

If the consolidation of the industry quickens the deployment of larger container ships to Australian ports (see section 2.7), then it will also pose some challenges for the operations of stevedores. Stevedores will need to increase capacity to deal with more demanding peak periods associated with a larger ship coming into dock, with implications for both waterside and landside operations. And yet despite this, the fewer number of ships may mean that that extra capacity will also see more periods of idle time.

2.7. Larger ships are visiting Australia

Container ships across the world continue to increase in size. Shipping lines are procuring larger ships because they reduce the 'slot cost' of container transport. Most ships now on order overseas are in the Old Post Panamax Plus and New Panamax classes, and range from 8,000 to 12,000 TEU.³⁴ In May of this year, OOCL introduced a record 21,413 TEU ship on the Asia-Europe routes.³⁵ These larger ships ordered a few years ago are now becoming ready for deployment.

Table 2.2 provides information on the most common sizes of container ships currently in operation.

Table 2.2: Container ship size classes³⁶

Ship class	Typical dimensions	TEU capacity
Old Panamax (1980-)	32m wide x 290m long x 11.5m deep	3,000 - 4,999
Old Post Panamax (1988-)	40m wide x 300m long x 12 m deep	5,000 – 7,499
Old Post Panamax Plus (2000-)	43m wide x 335m long x 13m deep	7,500 – 9,999
New Panamax (2004-)	49m wide x 366m long x 13 m deep	10,000-12,999
New Post Panamax (2006-)	56m wide, 397m long, 13.5m deep	13,000 – 15,999
Ultra Large (2013-)	59m wide, 400m long, 14m deep	16,000 – 22,000

33 Ibid.

34 Infrastructure Victoria, 'Advice on securing Victoria's ports capacity', Melbourne, 2017, p. 59.

35 OOCL, 'OOCL reaches milestone with the christening of the OOCL Hong Kong', 12 May 2017, <http://www.oocl.com/eng/pressandmedia/pressreleases/2017/Pages/12may17.aspx>.

36 Infrastructure Victoria, 'Advice on securing Victoria's ports capacity', Melbourne, 2017, p. 55.

The New Post Panamax and Ultra Large container vessels are currently servicing the major East-West global routes between Europe, Asia and North America, where there are significantly larger markets. Australia is serviced on the smaller North-South routes, with lower trade volumes and smaller ports. Smaller ships are used for these routes so that shipping lines can provide a weekly or bi-weekly service. However, as the East-West route ships age and newer and larger ships are procured, the shipping lines redeploy the midlife ships to the North-South routes servicing the Australian ports.

This cascading process has seen the average ship size in Australia grow. For example, the average size of container ships visiting the Port of Melbourne has grown by 4.5 per cent per annum over the last 14 years.³⁷ The average ship now visiting is within the Old Panamax range at 3,892 TEU,³⁸ which is typical for an Australian port.

However, it is the size of the largest ships wishing to call at Australian ports which will determine much of the investment by ports and stevedores. The Port of Melbourne has said that the maximum size of container ships visiting the port has increased by 4.7 per cent per annum over the last 14 years.³⁹

The largest container ship to call at an Australian port is the Seroja Enam operated by Maersk Line. The 8,530 TEU-sized vessel called at Port Botany in November 2016.⁴⁰ While a similar sized ship, the Lloyd Don Carlos (also operated by Maersk Line), called at Brisbane in December. The largest ships to visit Melbourne and Adelaide are a little under 8,000 TEU.

2.7.1. Planning for the future

The stevedores must anticipate the scale and timeline of the arrival of bigger ships in order to plan their investments. This is because stevedores have to be capable of servicing the larger ships in order to retain and attract business from the shipping lines. Additionally, this must be achieved within any constraints arising from port capacity.

The size of the Australian economy is likely to deter the largest container vessels (in the New Post Panamax and Ultra Large ranges) from coming to Australia for the foreseeable future. First, Australian cargo demand in the east coast market may be insufficient to justify the bi-weekly or weekly services that shipping lines prefer to use in order to maintain service frequency.⁴¹ Second, and relatedly, the ships need to be almost full in order to achieve the cost savings for which the larger ships are acquired. The rationale for deploying larger vessels is to achieve economies of scale and reduce unit costs, which does not occur if the larger vessel is not fully utilised.

The Port of Melbourne's view is that the nature and size of the Australian import and export market is more suited to relatively smaller vessels.⁴² The ACCC's industry consultations suggest that there will continue to be insufficient demand in the Australian economy to attract the largest ships on the North American and European routes, and so Australia will continue to receive relatively smaller and more frequent ships.

The ACCC's industry consultations identified a broad range of industry views on the ship size that Australian ports can anticipate becoming the average within the next five years with

37 Port of Melbourne, 'Evidence base to support Infrastructure Victoria Second Container Port Advice – Submission', Melbourne, 2017, p.19.

38 Ibid.

39 Ibid.

40 NSW Ports, 'Port Botany welcomes 8500 TEU container vessel', Media release, 23 November 2016.

41 Infrastructure Victoria, 'Advice on securing Victoria's ports capacity', Melbourne, 2017, p. 60.

42 Port of Melbourne, 'Evidence base to support Infrastructure Victoria Second Container Port Advice – Submission', Melbourne, 2017, p.19.

estimates ranging from 6,500 to 8,500 TEU. Even the lower end of this spectrum would represent a notable increase in the size of ships currently servicing Australian ports.

However, this may be a conservative estimate and there may be latent demand for bigger ships to come to Australia. A 2015 survey of shipping lines by Shipping Australia suggested a significant number of 8,000+ TEU vessels would visit Australia within the next five years if they were able to dock at the major container ports.⁴³

Port capacity is determined by a range of factors, including quay length, berth utilisation, the number and size of cranes, container storage yard space, labour force, and technology, including efficiencies from improvements in vessel navigation technology. These factors vary across the ports due to geography, port size, and investment levels. Larger ships require significant investment in port infrastructure, including widening and deepening channels, upgrading wharf structures, and increasing crane sizes.

Most container services call at the three east coast ports of Brisbane, Sydney and Melbourne to make the route economical. This means that restrictions on ship size in one port become a restriction on ship size at all ports. The port with the lowest size constraint sets the upper limit on the size of ships visiting all three.⁴⁴

As discussed, the typical ship currently visiting Australia falls within the Old Panamax range. However, Australian ports appear capable of servicing at least the Old Post Panamax Plus class, with some also well placed to handle the New Panamax ships (the largest likely to visit Australia in the foreseeable future):

- While Adelaide recently handled a 7,980 TEU ship, Flinders Ports is currently embarking on a channel-widening program. Flinders Ports has advised the ACCC that this widening program is expected to be complete by the middle of 2018 and enable the port to accommodate vessels up to 13,000 TEU.
- The Port of Brisbane has successfully handled an 8,500 TEU ship and, with reasonable investment, could handle 11,000 TEU ships.⁴⁵
- Port Botany in Sydney has also successfully handled an 8,500 TEU ship. Infrastructure Victoria estimates that Port Botany could possibly handle ships in excess of 10,000 TEU with modest channel works.⁴⁶

The Port of Melbourne is the port most likely to limit the size of ships visiting Australia. According to Infrastructure Victoria, the height of the West Gate Bridge and the width and depth of the Yarra Channel mean that the practical limit to ship size at Swanson Dock (where the DP World and Patrick terminals are located) is about 7,500 TEU.⁴⁷ However, the Port of Melbourne's view is that it would be possible to upgrade Swanson Dock to handle vessels between 9,000 and 10,000 TEU.⁴⁸

In contrast, VICT's terminal at Webb Dock and downstream from the West Gate Bridge is capable of handling ships up to 14,000 TEUs, the largest size ship that can safely pass through the Port Phillip Heads.⁴⁹ Accommodating ships of this size would, however, require upgrades to the existing wharf structure, swing basin and approach channel.

43 Shipping Australia, 'Shipping Australia magazine spring/summer 2015', 2015, https://shippingaustralia.com.au/wp-content/uploads/2012/07/SAL_Spring_2015_WEB.pdf.

44 Infrastructure Victoria, 'Advice on securing Victoria's ports capacity', Melbourne, 2017, p. 60.

45 Ibid, p. 59

46 Ibid, p. 59

47 Ibid, p. 63.

48 Port of Melbourne, 'Evidence base to support Infrastructure Victoria Second Container Port Advice – Submission', Melbourne, 2017, p.19.

49 Infrastructure Victoria, 'Advice on securing Victoria's ports capacity', Melbourne, 2017, p. 60.

2.8. Improving transport connections to container terminals

The volume of container freight to pass through Australian ports has been forecast by the Bureau of Infrastructure, Transport and Regional Economics (BITRE) to more than double from 7.2 million to 19.4 million TEUs by 2032-33.⁵⁰ To successfully transport an increasing volume of containers without more road congestion, governments and private stakeholders have looked to increase the use of rail links and improve road transport connections to container terminals.

This section provides an update on some key projects that are aiming to improve the efficiency of rail and road freight connections and reduce road congestion.

- the Inland Rail project which will provide a high-capacity freight link between Melbourne and Brisbane
- the Moorebank intermodal terminal which is intended to increase freight throughput at Port Botany and
- the proposed West Gate tunnel which is intended to reduce truck congestion and provide a more efficient freight route to the Port of Melbourne.

2.8.1. Inland Rail

Demand for freight transport in the Melbourne to Brisbane corridor is expected to grow substantially over the coming decades from approximately 4.9 million tonnes in 2016 to around 13 million tonnes (or approximately 1.1 million TEU) by 2050. This increased demand will require additional freight capacity.⁵¹

The Australian Rail Track Corporation (ARTC) has been appointed by the Australian Government to deliver the \$10.7 billion Inland Rail project, which is the largest freight rail infrastructure project in Australia. The first train is expected to operate on the new track in 2024-25.

Inland Rail will provide a 1,700km rail freight link from Tottenham in Victoria to Acacia Ridge in Queensland. The track will enable the use of double-stacked, 1,800m long trains with a 21 tonne axle load at a maximum speed of 115km/h, allowing for the transit of greater freight volumes. Each train could carry the equivalent freight volume as 110 B-double trucks.

ARTC said that the new rail route will be up to 10 hours faster than the existing coastal rail network via Sydney. It is estimated that shorter transit times will reduce supply chain costs by \$10 per tonne for inter-capital freight travelling between Melbourne and Brisbane.⁵²

One concern that has been raised about the Inland Rail link is that there is no dedicated freight rail connection from Acacia Ridge to the Port of Brisbane. It has been reported that establishing a dedicated rail freight link from Acacia Ridge to Brisbane would have cost another \$2.5 billion.⁵³

Port of Brisbane chief executive Roy Cummins said the Inland Rail project would only be a true freight connection if it went all the way through to the port.⁵⁴ In the absence of a dedicated freight rail connection, freight destined for the Port of Brisbane would need to be

50 BITRE, 'Containerised and non-containerised trade through Australian ports to 2032-33' (Report, December 2014), pp. 70-71.

51 Infrastructure Australia, Project Business Case Evaluation Inland Rail, May 2016, http://infrastructureaustralia.gov.au/projects/files/Final_Inland_Rail_Project_Evaluation_Summary.pdf.

52 Australian Rail Track Corporation, <https://inlandrail.artc.com.au/programme>.

53 Mark Ludlow, 'Need to solve inland rail's "missing link" says Port of Brisbane', *Australian Financial Review*, 19 May 2017.

54 Ibid.

unloaded on to trucks and transported by road or transferred on to shuttle trains on an existing urban rail link. This urban rail link is apparently operating at close to peak capacity.⁵⁵

Infrastructure and Transport Minister, the Hon Darren Chester MP, said that the existing urban rail link from Acacia Ridge to the Port would meet demand in the medium-term and long-term investment will be considered as freight demand increases.⁵⁶

2.8.2. Moorebank Intermodal Terminal

Most landside freight movements to and from Port Botany are made by road. As the volume of freight passing through the port increases, truck movements increase, causing congestion on roads connecting to the port. As part of a long-term strategy to increase rail freight throughput at Port Botany, the Australian government is supporting the development of a large intermodal terminal in Sydney's south-west.

The Moorebank Intermodal Terminal is being developed by Qube, part owner of Patrick. It will include an import-export freight terminal connected by rail to Port Botany which will provide capacity for 250,000 containers a year by mid-2018 and eventually more than a million each year.⁵⁷ It is claimed that freight trucks will travel 60,000 fewer kilometres on Sydney's roads each day as a result of this mode shift to rail.

The second stage of the project is an interstate terminal which will help Sydney handle the forecast growth in interstate freight transfers, which are currently made almost entirely by road. The interstate terminal will initially be developed to handle 250,000 containers a year by 2020 and up to 500,000 by 2030. It will be connected by rail to the Southern Sydney Freight Line, and by road to the M5 motorway.⁵⁸

2.8.3. West Gate Tunnel

The Victorian Government is partnering with Transurban to build the West Gate Tunnel. The West Gate Tunnel Project aims to create an alternative river crossing to the West Gate Bridge, reduce truck congestion and cut travel times to the Melbourne CBD.

Construction on the West Gate Tunnel is expected to begin in 2018 with completion expected in 2022.

The project will include:

- widening the West Gate Freeway from 8 to 12 lanes and include express lanes between the M80 and the West Gate Bridge
- a tunnel from the West Gate Freeway to the Maribyrnong River and the Port of Melbourne, which will take motorists and trucks underground and off residential streets, providing a more efficient freight route
- a bridge over the Maribyrnong River, linking to an elevated road along Footscray Road and
- improved access to Webb Dock (the location of VICT's container terminal) which will take trucks off the West Gate Freeway and directly to the Bolte Bridge.

2.9. Road funding and pricing reforms

55 Matthew Connors, 'Inland rail link fails to make it to port', *The Courier-Mail*, 14 May 2017.

56 Mark Ludlow, 'Need to solve inland rail's "missing link" says Port of Brisbane', *Australian Financial Review*, 19 May 2017.

57 Moorebank Intermodal Company, Annual Report 2016, p.15.

58 Moorebank Intermodal Company, Annual Report 2016, p.11.

As explained above, roads are a vital piece of infrastructure for the port container supply chain. In 2016-17, there has been some further progress towards possible reforms to the way that roads are funded. The aim of the work is to ensure that there are closer links between investment in roads and the charges that are used to fund that infrastructure.

Australian governments at both the state and federal level have been exploring possible improvements to the way we fund roads as part of work being done under the Coalition of Australian Governments (COAG). The ACCC participates in regular meetings of a working group that consists of the Department of Infrastructure and Regional Development (Federal), state transport departments and agencies, the National Transport Commission and Treasury (Federal).

The focus to date has been on funding arrangements in relation to heavy vehicles. Heavy vehicles already effectively pay a road user charge through the PAYGO scheme. This scheme is implemented through refunds from excise paid on fuel, with the residual amount partly reflecting the costs associated with that vehicle using the roads.

At a meeting of the Transport and Infrastructure Council of COAG in May 2017, state and federal road ministers agreed that the Australian government should work with state governments to implement independent regulation of heavy vehicle charges.⁵⁹ This would see decisions about the level of these charges being made independently from arms of government involved in either the delivery of roads or the setting of budgets. Pricing decisions by the independent regulator would also be binding upon governments.

The Department of Infrastructure and Regional Development released a discussion paper on independent price regulation for heavy vehicles in May 2017.⁶⁰ Submissions from stakeholders were overwhelming in favour of the proposed move, as it would provide greater transparency and ensure that the price setting process is not subject to political or fiscal pressures. The ACCC was the preferred body to take on this role. It is yet to be seen whether the state governments will agree to implement independent price regulation, but it is expected to be discussed further at the next meeting of the Transport and Infrastructure Council in November 2017.

Independent price regulation is one element of an indicative pathway of heavy vehicle road reforms under consideration by government. Other elements include hypothecating road-related revenues for road purposes, establishing road service level standards, and further into the future, potentially introducing more sophisticated and fairer forms of road pricing.

Over time it is expected that this work will also provide a foundation for improved arrangements for the sustainable funding of roads for light vehicles. In November 2016, the Hon Paul Fletcher MP, Minister for Urban Infrastructure announced that the Australian government would establish a study into the potential benefits and impacts of road user charging for light vehicles. Details for this study are expected to be released by the end of 2017.

Despite their importance to the Australian community and economy, roads have not been subject to the level of microeconomic reform that has occurred in other industries since the National Competition Policy Review in 1983. This provides Australia with a significant opportunity to get more value out of the \$25 billion we spend each year on roads.

59 Transport and Infrastructure Council, 'Communique', 19 May 2017, http://transportinfrastructurecouncil.gov.au/communique/files/Council_7th_Communique_19_May_2017.pdf.

60 Department of Infrastructure and Regional Development, 'Land transport market reform: Independent price regulation of heavy vehicle charges', May 2017, <https://infrastructure.gov.au/roads/heavy/files/IPR-Discussion-Paper.pdf>.

2.10. Coastal shipping

In September 2017, the Australian Government introduced a bill into Parliament to implement a number of reforms in relation to coastal shipping.

Coastal shipping refers to the movement of goods by ship within a country. In Australia, coastal shipping plays a very small role as the vast majority of domestic containers are transported by road, or to a lesser degree rail.

The *Coastal Trading (Revitalising Australian Shipping) Act 2012* regulates coastal trade by granting licences to authorise vessels to carry passengers or cargo between ports in Australia. The regulations restrict the ability for non-Australian ships to carry domestic freight.

In March 2017, the Australian Government released a discussion paper outlining a number of proposed reforms to Australian coastal shipping regulations to improve coastal shipping's competitiveness and increase its current 15 per cent share of Australia's domestic freight network.⁶¹

The proposed reforms were introduced to Parliament in September 2017. The reforms would retain the basic structure of the current regulatory regime, but with amendments to remove some aspects identified as unreasonably limiting, inflexible or onerous for stakeholders. Some of the key changes being proposed include removing the five voyage minimum requirement for a Temporary Licence (TL), increasing the flexibility of TL arrangements and extending the geographical reach of the Coastal Trading Act.⁶²

DP World said that if there was substantive reform to Australian coastal shipping regulations then DP World, in partnership with TasPorts, would invest an initial \$20 million for a staged port development at Burnie.⁶³

It would be prudent for the government to ensure that there are no impediments to the role of shipping in helping to move containers around Australia. This role will only become more valuable over time as roads and rail become more congested.

61 Department of Infrastructure and Regional Development, Coastal Shipping Reforms, March 2017, https://infrastructure.gov.au/maritime/business/coastal_shipping/files/Coastal_Shipping_Reforms_Discussion_Paper.pdf.

62 Department of Infrastructure and Regional Development, Coastal Shipping Reforms, March 2017, https://infrastructure.gov.au/maritime/business/coastal_shipping/files/Coastal_Shipping_Reforms_Discussion_Paper.pdf.

63 DP World Australia response to discussion paper Coastal Shipping Reforms, May 2017, https://infrastructure.gov.au/maritime/business/coastal_shipping/files/52_Coastal_Shipping_Reforms_DPWA.pdf.

3. Stevedoring throughput and productivity

3.1. Overview

This chapter presents information on the volume of containers handled by stevedores in each of the monitored ports, as well as the size of the landside freight task. It also looks at the efficiency with which the stevedores handled both of these tasks.

In 2016-17, total throughput at Australian container ports increased by 3.7 per cent to a record 7.2 million TEUs. Sydney regained its spot as Australia’s largest stevedoring port, while the industry continued its increasing use of 40 foot containers. DP World and Patrick continue to account for a dominant share of the supply of stevedoring services, however their combined share is starting to decrease.

Overall capital and labour productivity levels fell slightly over the past year, while multifactor productivity was flat. On the other hand, landside productivity was mixed with truck turnaround times improving, but truck utilisation rates have decreased.

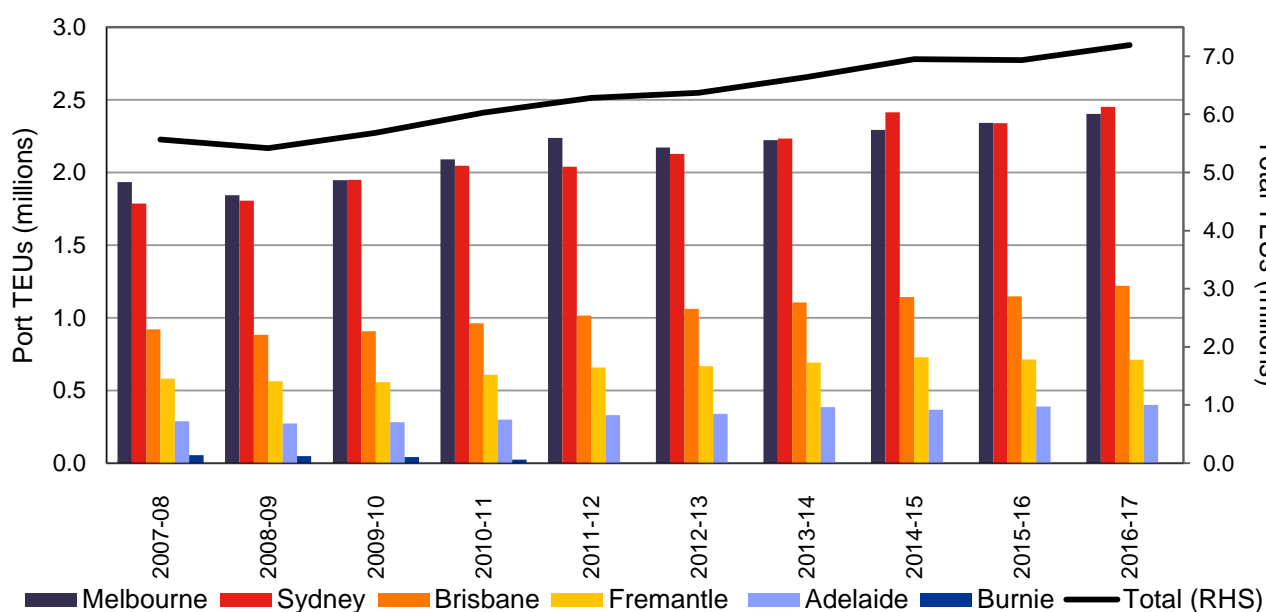
The ACCC aggregates throughput information provided by container stevedores DP World, Flinders Adelaide, Hutchison, and Patrick. Data on the industry’s productivity was generously provided by the Bureau of Infrastructure, Transport and Regional Economics (BITRE) ahead of its [Waterline](#) 61 publication. VICT’s data will be included for the first time in next year’s monitoring report.

3.2. Stevedoring throughput

3.2.1. Containerised throughput at monitored ports

In 2016-17, the total number of ‘containers handled’⁶⁴ at monitored Australian ports increased by 3.7 per cent to 7.2 million TEUs (see Figure 3.1).

Figure 3.1: Container stevedoring throughput trends at monitored ports



Source: Stevedores

⁶⁴ ‘Containers handled’ refer specifically to containerised cargo lifted by stevedores on and off ships using specialist equipment at container terminal facilities.

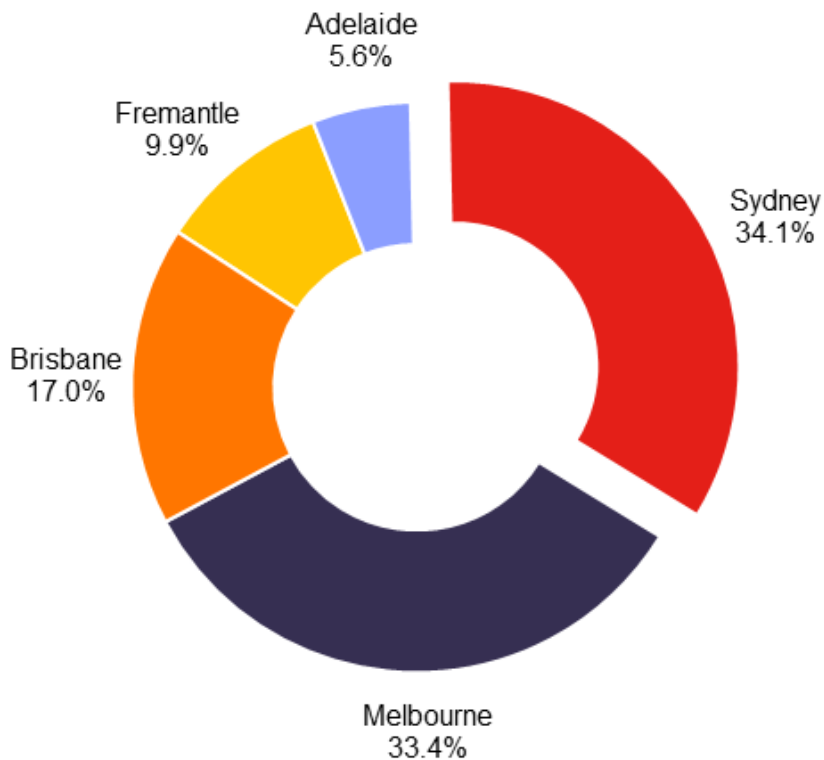
Most monitored ports' container handling levels grew in 2016-17, with the exception of Fremantle where it decreased by 0.4 per cent. The largest increase was in Brisbane, rising by 6.4 per cent following growth in Queensland's imports and agricultural exports.⁶⁵ Volumes increased by a lesser amount in Sydney (4.8 per cent), Adelaide (2.9 per cent) and Melbourne (2.6 per cent).

Over the past ten years, Australian containerised throughput has generally increased, with the only significant decline being in 2008-09 following the effects of the Global Financial Crisis.

The annualised national container throughput growth rate during this period was 2.9 per cent, with Adelaide having the highest average annual growth rate with 3.9 per cent, followed by Sydney (3.6 per cent), Brisbane (3.2 per cent), Melbourne (2.5 per cent) and Fremantle (2.4 per cent).

Figure 3.2 shows that Sydney regained its spot as Australia's largest container stevedoring port in 2016-17, having lost it to Melbourne in 2015-16. Sydney processed a record 2.5 million TEUs, closely followed by Melbourne with 2.4 million TEUs, Brisbane with 1.2 million TEUs, Fremantle with 0.7 million TEUs and Adelaide with 0.4 million TEUs.

Figure 3.2: Share of containers (in TEUs) handled by monitored port, 2016-17⁶⁶



Source: Stevedores

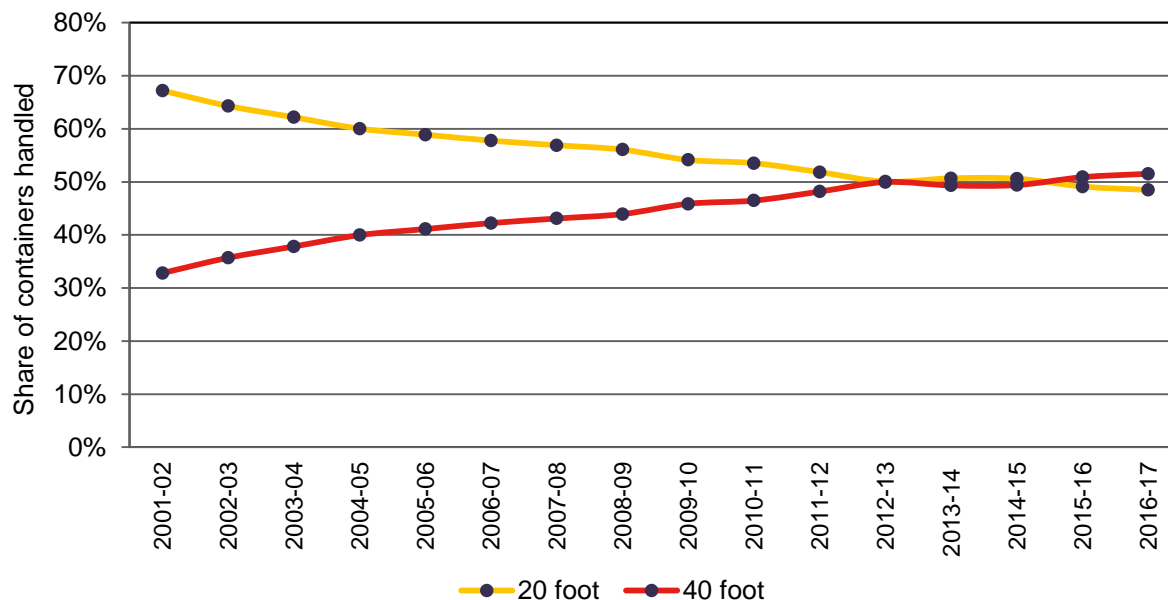
⁶⁵ Port of Brisbane, 'Monthly Trade Report June 2017', June 2017, https://www.portbris.com.au/PortBris/media/General-Files/MTR/2017/June-2017-Monthly-Trade-Report_2.pdf.

⁶⁶ From 2011-12, no throughput of international containers for Burnie was recorded because Patrick closed its Burnie Terminal in May 2011.

3.2.2. Increasing use of 40 foot containers

Australian container stevedoring throughput has generally grown over the past ten years. Underscoring this is the growth in the handling of 40 foot containers relative to 20 foot containers. Figure 3.3 shows that the number of 40 foot containers being handled by stevedores overtook 20 foot containers in 2015-16.

Figure 3.3: Share of containers handled by container type



Source: Stevedores

While there is some degree of substitutability between the two different-sized containers, shippers tend to use 20 foot containers to transport heavy export commodities, while 40 foot containers are favoured to import light or voluminous commodities. Modelling by BITRE suggests that the growth in 40 foot containers will likely continue in the coming years due to a larger expected growth in imports than exports.⁶⁷

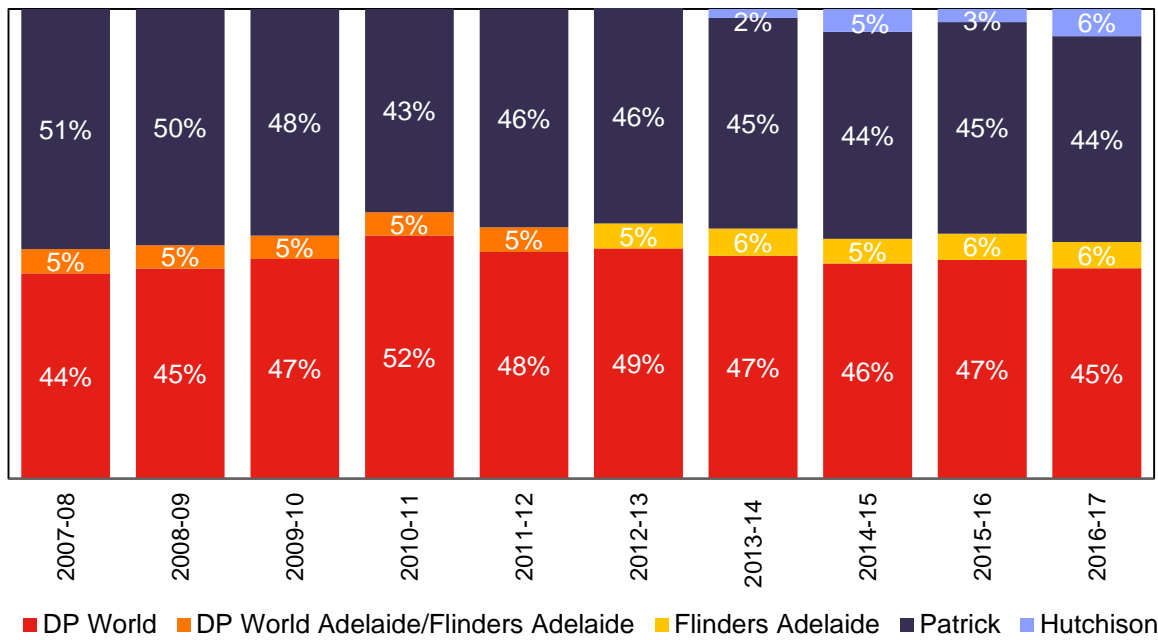
3.2.3. Share of TEUs handled by stevedore

There were four stevedores operating in Australia’s monitored container ports for all of 2016-17: DP World, Flinders Adelaide, Hutchison, and Patrick. VICT commenced operations during the year and will provide data for the first time for next year’s monitoring report.

As shown in Figure 3.4, Patrick and DP World continue to service significantly higher volumes of containers (in TEUs) than the other stevedores across the country. In the past ten years, Patrick’s peak share was 51 per cent which it achieved in 2007-08 while DP World’s peak share was 52 per cent which it achieved in 2010-11. DP World is currently Australia’s leading stevedore by TEU volumes handled by a small margin.

67 BITRE, ‘Container and ship movements through Australian ports’, https://bitre.gov.au/publications/2006/files/wp_065.pdf.

Figure 3.4: Share of containers handled by stevedore (in TEUs)



Source: Stevedores

Patrick and DP World’s dominance in the supply of national stevedoring services is owed in large part to the geographic scale of their operations (each operate in all container ports bar Adelaide) and their incumbency and long history of operating in Australian container ports.

However, Patrick and DP World’s shares of national TEU volumes are beginning to be impacted by increased competition at the east coast ports.⁶⁸ Indeed, Patrick and DP World’s combined 2016-17 share of 89 per cent, while still high, was the lowest ever recorded in the ACCC’s monitoring program. Improving competitiveness by Hutchison in Brisbane and Sydney and the entry of VICT in Melbourne is expected to further increase the pressure on Patrick and DP World’s national shares.

3.3. Productivity

Changes in productivity are an important indicator of industry performance, as well as the quality of service provided to customers. For stevedores, productivity indicators partly reflect the quality of management and investment decisions made by the stevedores to offer a more efficient service. They also reflect the productivity of labour in the use of equipment and servicing ships.

3.3.1. Quayside productivity

BITRE’s [Waterline](#) reports on trends in quayside productivity⁶⁹ in stevedoring operations in the monitored container ports: Adelaide, Brisbane, Burnie, Fremantle, Melbourne, and Sydney.

68 Flinders Adelaide is the sole provider of stevedoring services in Adelaide’s international container terminal.

69 Quayside is sometimes also referred to as “wharfside”.

The three key indicators of quayside productivity are:

- Net crane rate – This is an indicator of capital productivity and reflects the intensity to which quay cranes are used, and measures the number of containers handled per crane hour while quay cranes are operating.⁷⁰
- Elapsed labour rate – This is an indicator of labour productivity and measures the number of containers handled for the period of time between labour first boarding a container ship to labour last leaving the ship, less any time when labour was not working due to delays.⁷¹
- Ship rate – This reflects the productivity of labour and capital (multifactor) while the ship is being worked by measuring the average number of containers handled in an hour.⁷²

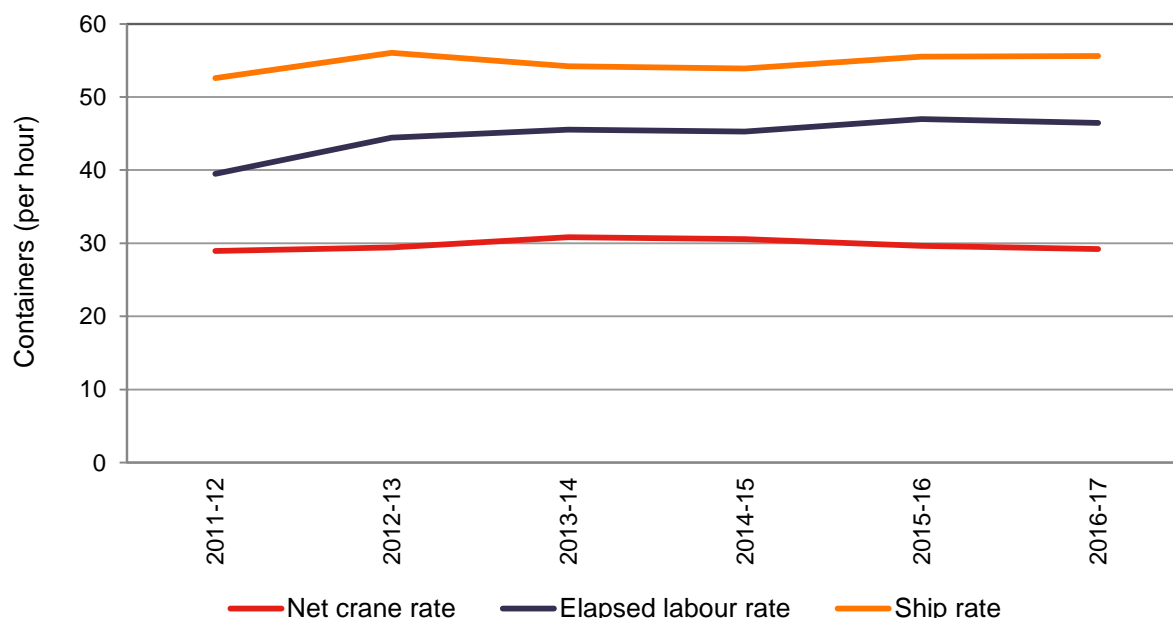
These indicators measure the productivity of capital and labour that are allocated to servicing ships. They therefore do not measure amounts of spare capacity or the amount of labour and capital that is available but not actively working a ship.

In 2016-17, Australian quayside productivity decreased slightly.

- **Capital productivity** decreased by 1.7 per cent to 29.2 containers per hour.
- **Labour productivity** decreased by 1.1 per cent to 46.5 containers per hour.
- **Multifactor productivity** was flat, only increasing by 0.2 per cent to 55.6 containers per hour.

Quayside productivity trends are graphically represented in Figure 3.5 below.

Figure 3.5: Quayside productivity indicators, Australia



Source: BITRE, *Waterline* (from forthcoming publication no 61).

70 The net crane rate is measured by dividing the total number of containers handled by the elapsed crane time. The elapsed crane time is the crane time allocated by the stevedores. It is computed as the total allocated crane hours less operational and non-operational delays. See: BITRE, 'Waterline 60', https://bitre.gov.au/publications/2017/water_060.aspx.

71 See: BITRE, 'Waterline 60', https://bitre.gov.au/publications/2017/water_060.aspx.

72 The ship rate is calculated by multiplying the net crane rate by crane intensity. Crane intensity is defined as the total number of allocated crane hours divided by the elapsed time from labour first boarding the ship to labour last leaving the ship. See: BITRE, 'Waterline 60', https://bitre.gov.au/publications/2017/water_060.aspx.

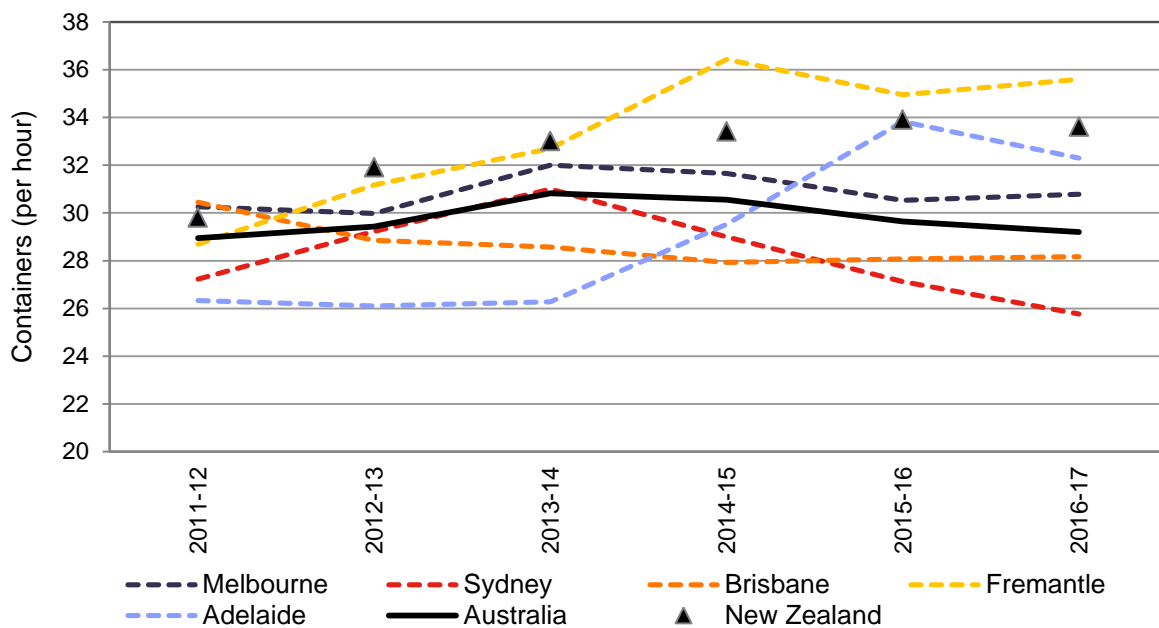
While there was a slight reduction in 2016-17, quayside productivity has significantly improved since the ACCC’s monitoring program began in 1998-99 and remain close to record-high levels.

However, Australian quayside productivity levels do not compare favourably with other highly industrialised economies where significantly higher performance benchmarks were being achieved a decade ago.⁷³ This finding is consistent with views raised by numerous stevedores and shipping lines. Indeed, comparing Australian national quayside productivity with New Zealand would reveal that local productivity levels are much lower.^{74 75}

Capital productivity levels have plateaued from 2011-12, with large gains in smaller ports such as Fremantle and Adelaide being more than offset by falling net crane rates in larger ports such as Sydney and Brisbane. Capital productivity peaked at 30.8 containers per hour in 2013-14, but has since receded to 29.2 by 2016-17. While capital productivity has long remained above the Government’s 1998 benchmark of 25 container movements per hour, strong improvements in capital productivity achieved immediately after the waterfront reforms of the late 1990s have not continued.

Figure 3.6 shows the trend in capital productivity (expressed as annualised containers per hour) at each of the container ports. Fremantle had the highest productivity at 35.6 cranes per hour. The capital productivity at Sydney has now fallen to 25.8 cranes per hour.

Figure 3.6: Net crane rates at each container port



Source: BITRE, *Waterline* (from forthcoming publication no 61); New Zealand Ministry of Transport.

Australian capital productivity levels may improve in the future as recent industry entrants Hutchison and VICT continue to establish their operations, impediments on capital

73 New Zealand Ministry of Transport, ‘Container productivity at New Zealand ports’, October 2011, <http://www.transport.govt.nz/assets/Import/Documents/Container-Port-Productivity-report-final.pdf>.

74 New Zealand Ministry of Transport, Container handling: Quarterly container handling statistics, August 2017, <http://www.transport.govt.nz/ourwork/tmif/freighttransportindustry/ft022/>.

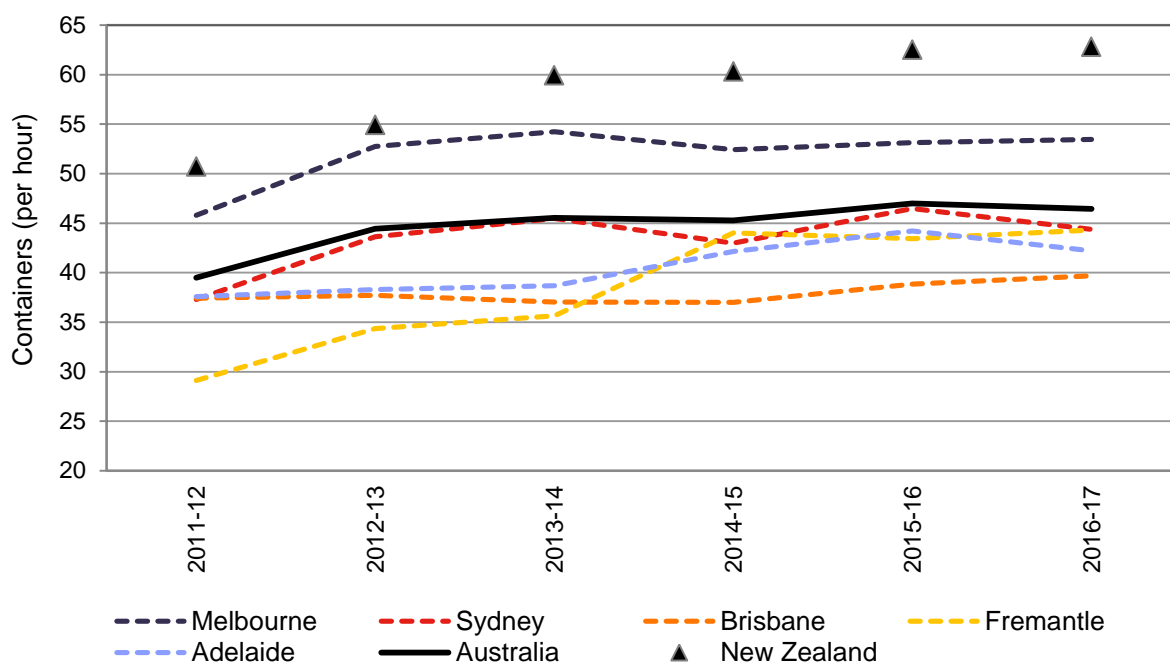
75 The New Zealand Ministry of Transport and BITRE employ similar methodologies in calculating quayside productivity.

investment such as uncertainty on port lease agreements are lifted, and container volumes and ship sizes grow.⁷⁶

Labour productivity levels have been steadily increasing since the ACCC’s monitoring program began in 1998. This may be due to Enterprise Bargaining Agreements (EBAs) allowing greater flexibility in the deployment of labour. Overall labour productivity improved significantly (by 17.7 per cent) in the past six years, although it declined slightly (by 1.1 per cent) in 2016-17.

Figure 3.7 shows the trend in labour productivity (expressed as annualised containers per hour) at each of the container ports.

Figure 3.7: Elapsed labour rate at each container port



Source: BITRE, *Waterline* (from forthcoming publication no 61); New Zealand Ministry of Transport.

Melbourne’s labour force remains significantly more productive than other ports in 2016-17 with 53.5 container movements per hour, while Brisbane continued its trend of being the least productive with 42.2 container movements per hour since 2014-15. Interestingly, Brisbane recorded this performance despite having the highest level of automation. In 2016-17, all of Brisbane’s container terminals were semi-automated, while Melbourne had no automated terminals.⁷⁷

Labour productivity may increase soon after new EBAs are finalised. Indeed, productivity improvements can be seen in 2014-15 following Flinders Adelaide’s new EBA in Adelaide, and in 2016-17 following DP World’s new EBA in its Fremantle terminal.

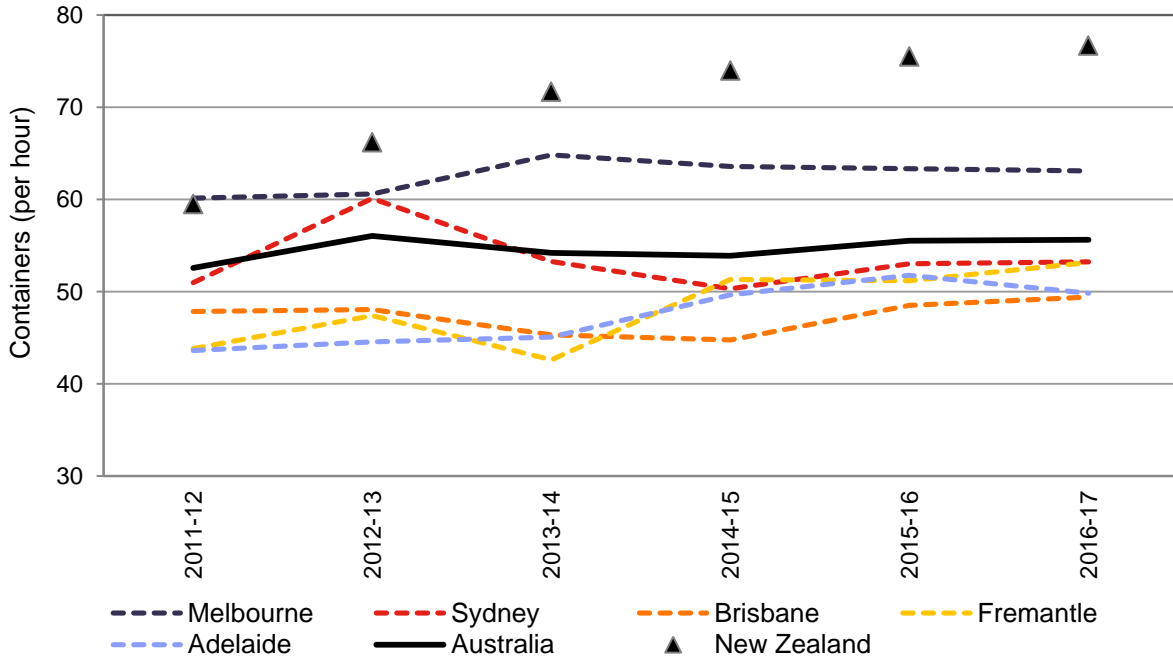
Multifactor productivity levels have improved significantly since the ACCC commenced monitoring in 1998. The combined productivity of labour and capital in handling containers improved by 5.8 per cent over the past six years, but was flat in 2016-17.

⁷⁶ Crane productivity tends to be higher when ships are larger because there is generally less time when the crane is in operation but there is no freight available to be loaded or unloaded. However, productivity levels may only improve assuming that there are no constraints in crane and yard capacity.

⁷⁷ This excludes VICT’s operations.

Figure 3.8 illustrates the trend in multifactor productivity (expressed as annualised containers per hour) at each of the container ports. Melbourne clearly has the highest productivity at 63.1 containers per hour.

Figure 3.8: Ship rate at each container port



Source: BITRE, *Waterline* (from forthcoming publication no 61); New Zealand Ministry of Transport.

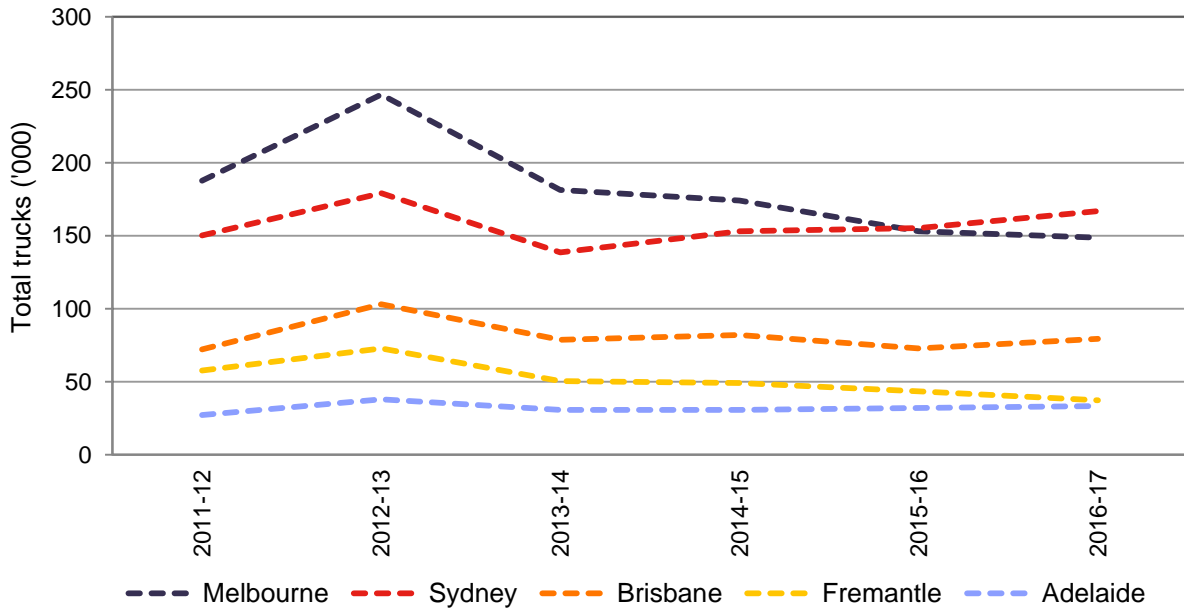
3.3.2. Landside freight task and productivity

BITRE publishes a range of landside performance indicators. These relate to the number of containers transported by truck or rail, general performance, and the time of the week in which trucks moved the freight.

The **size of the landside freight task** is predominantly a function of the number of containers being handled. Consequently, the size of the landside freight task is greatest in Sydney and Melbourne, Australia’s two largest container ports (see Figure 3.9).

For all the ports, containers remain predominantly transported via trucks on roads. Melbourne has had the highest number of trucks for most of the past six years, but higher stevedoring throughputs contributed to the increase in Sydney’s trucks in 2016-17. The increase in the number of trucks in Sydney also corresponded with a decline in the number of containers transported via rail. The opposite effect can be seen in Fremantle from 2014 following the extension of the Fremantle North Quay Rail Terminal.

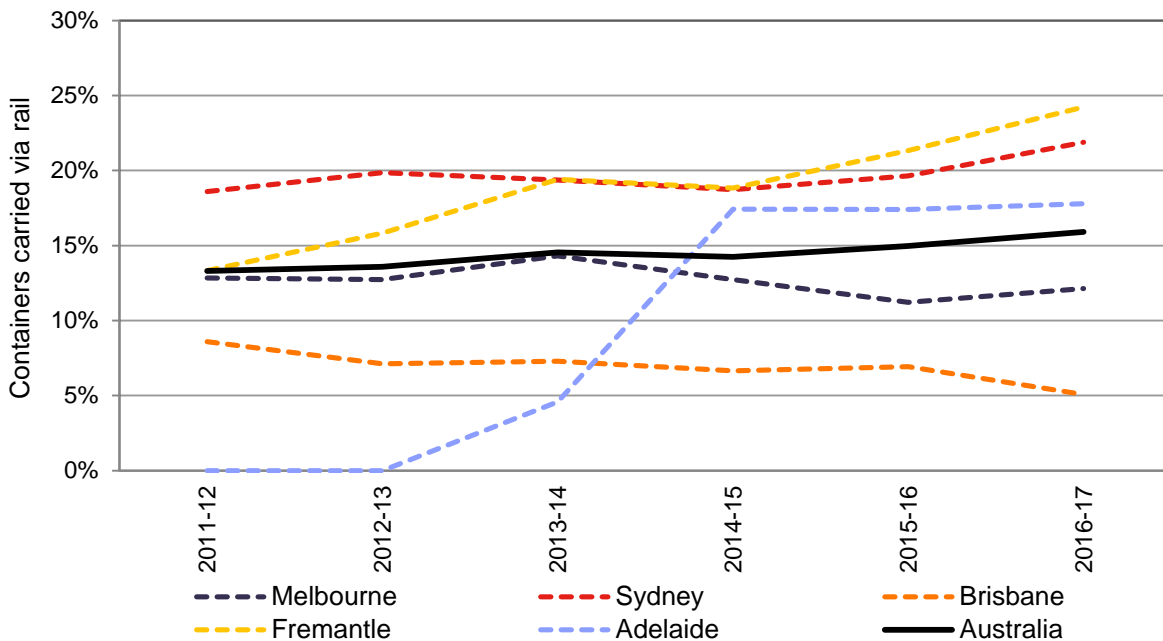
Figure 3.9: Number of trucks at each container terminal



Source: BITRE, *Waterline* (from forthcoming publication no 61).

Figure 3.10 below shows the proportion of containers carried via rail nationally and at each port. While the number of containers transported by rail across all Australian container ports is currently low (15.9 per cent in 2016-17), there is a growing appetite to facilitate the transport of more containers via rail due to congestion challenges posed by trucks on roads. The \$10.7 billion Inland Rail project, which is the largest freight rail infrastructure project in Australia, is discussed in greater detail in section 2.8.1.

Figure 3.10: Rail modal share at each container terminal



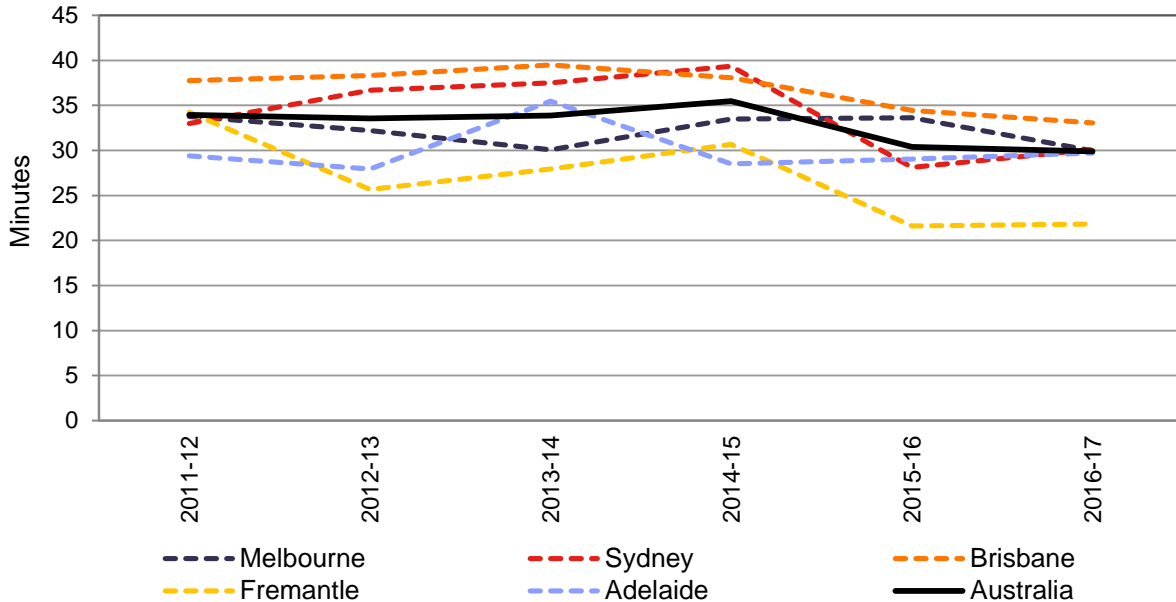
Source: BITRE, *Waterline* (from forthcoming publication no 61).

Note: BITRE has revised rail modal share data in *Waterline 61* and hence data presented in the chart above will not be comparable to those in previous ACCC Container Stevedoring Monitoring Reports.

Truck turnaround times

Truck turnaround times are an indicator of landside productivity and reflect the length of time stevedores take to load or unload containers on trucks at their terminals. Figure 3.11 below illustrates the average truck turnaround times for each of the monitored container ports.

Figure 3.11: Average truck turnaround times



Source: BITRE, *Waterline* (from forthcoming publication no 61).

Note: BITRE has revised truck turnaround time data in *Waterline 61* and hence data presented in the chart above will not be comparable to those in previous ACCC Container Stevedoring Monitoring Reports.

Australian truck turnaround times have trended downwards over the past six years, improving from 33.9 minutes in 2011-12 to record lows of 29.9 minutes in 2016-17. Truck turnaround times slightly improved over the past year, decreasing by 0.5 minutes. In 2016-17, Fremantle truck turnaround times continued to be the best of all container ports possibly due to Western Australia’s investment in the North Quay Rail Terminal, while Brisbane has been taking the most time to process trucks. Average truck processing times in Sydney increased by 2 minutes, while average processing times in Melbourne decreased by 3.6 minutes.

In justifying its new or significantly increased infrastructure charges, Patrick highlighted to the ACCC the effect of its landside infrastructure investments in reducing truck processing times in its terminals.

Apart from landside capital investment, a study conducted by Fremantle Ports identified other key issues that potentially impact on trucking productivity and efficiency:⁷⁸

- mismatch of operating hours or service times along the chain making coordination difficult
- limited access to slots
- alignment of booking systems with trucking efficiency requirements

⁷⁸ Fremantle Ports, *Truck Productivity Study*, July 2014, <http://www.fremantleports.com.au/SiteCollectionDocuments/Fremantle%20Ports%20Truck%20Productivity%20Study.pdf>.

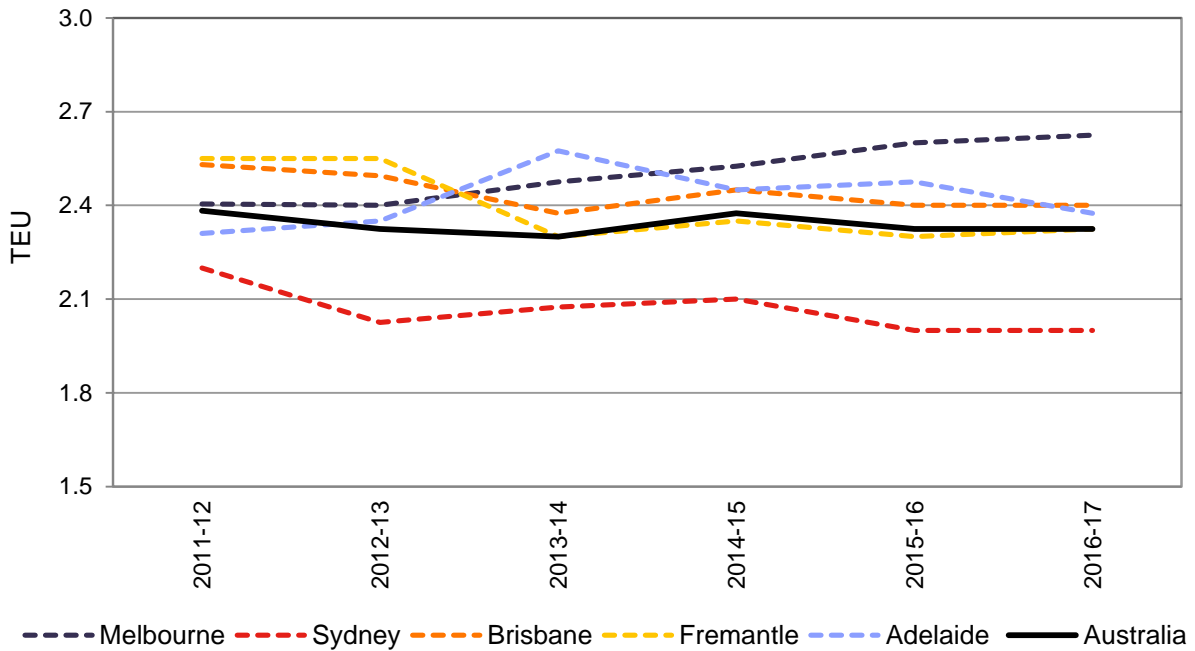
- importer issues such as site constraints and availability of containers after unpacked and
- futile trips due to poor information flow between parties.

Truck utilisation on container terminals

While truck turnaround times are an important measure, seeking to improve landside productivity levels by minimising truck turnaround times alone could be problematic. Indeed, stevedore DP World advised the ACCC that finding landside productivity efficiencies around this measure alone could encourage more single container truck deliveries, thereby increasing the number of trucks on the road. Increasing average truck loads, while it would likely lead to poorer truck turnaround times, would have the benefit of improving landside congestion on container terminals by reducing the number of trucks.

However, as shown in Figure 3.12 below, average TEUs loaded on trucks in Australian container ports have been trending slightly downwards in the past six years. Over the same period, Sydney, Brisbane, and Fremantle’s truck utilisation rates have deteriorated, while Melbourne and Adelaide’s have improved.

Figure 3.12: Average TEU per truck



Source: BITRE, *Waterline* (from forthcoming publication no 61).

A productivity study by Fremantle Ports identified that the growth in the use of 40 foot containers may have been an inhibiting factor to truck utilisation. Fremantle Ports found that the increasing prevalence of 40 foot containers has made it more difficult for some truck operators to source sufficient 20 foot containers to fill spare slots on their trucks. However, Fremantle Ports also noted that the weight of laden containers being transported by trucks may also negatively affect the carrying capacity of trucks.⁷⁹

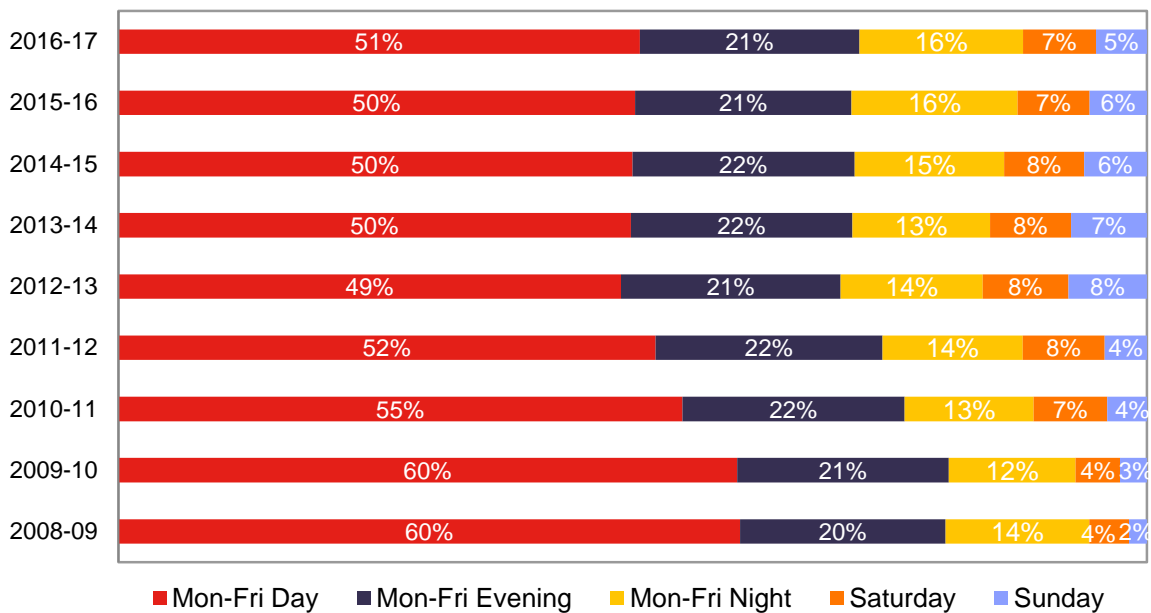
⁷⁹ Ibid.

Managing demand for access to container terminals

It is increasingly important for stevedores and transport companies to operate outside of standard business hours. This is in order to manage landside congestion at the ports and to avoid delays associated with using the roads and rail networks at peak periods.

Figure 3.13 shows that despite most container terminals offering around the clock operations, daytime weekday access is the most used. In 2016-17, 51 per cent of VBS activity was recorded during Monday to Friday between 6 am and 6 pm. This is likely to have implications for those ports which are located in highly urbanised areas and where existing road networks cater for passenger and freight demands.

Figure 3.13: Adjusted vehicle booking system usage, Australia



Source: BITRE, *Waterline* (from forthcoming publication no 61).

Note: The Monday to Friday time windows are defined as follows: Day–0600 to 1800, Evening–1800 to 2400, and Night–2400 to 0600.

Evening and night-time slots on Monday to Friday are the next most popular times for container movements by truck. A reason for the low non-peak use may be a mismatch between the hours of operation of stevedores and businesses in other parts of the supply chain (such as empty container parks, depots, and warehouses). There may also be additional costs to businesses for operating out of hours.

While there has been a decrease in trucks accessing terminals in daytime during the week, much of the shift to using terminals on weeknights and weekends took place prior to 2012-13.

4. Industry Financials

4.1. Overview

This section looks at revenues, costs, profits and returns in the stevedoring industry as a whole. Information presented in this chapter was supplied by the four stevedoring companies operating in the monitored ports during 2016-17: Patrick, DP World, Hutchison, and Flinders Adelaide. VICT will provide data for the first time for next year's monitoring report.

The ACCC's monitoring results for 2016-17 show a significant increase in the stevedoring industry's profitability. The impact of increased competition among stevedores and the consolidation of shipping entities has manifested in significantly reduced stevedoring revenue. Despite this, total revenue has improved slightly, buoyed by significantly increased flows from non-stevedoring functions. Improved industry economies of scale and efficiencies on a number of operational fronts have also been putting a downward pressure on costs.

Capital expenditure in the stevedoring industry continued in 2016-17, but was significantly lower compared to previous years. Stevedores' expenditure for new cranes and straddles, investments to improve landside efficiency and their preparation to service growing demand for larger ships have had the effect of expanding the industry's asset base. However, industry return on assets has increased significantly in 2016-17 courtesy of the greater relative increase in profit margins.

Figures presented in this chapter consolidate individual information supplied by the stevedores. As such, the figures mask the large variation in the operational performance outcomes among incumbent stevedores and new entrants. Supplementary data on trends in industry revenues, costs and profits can be found on the [ACCC's website](#).

4.2. Revenues

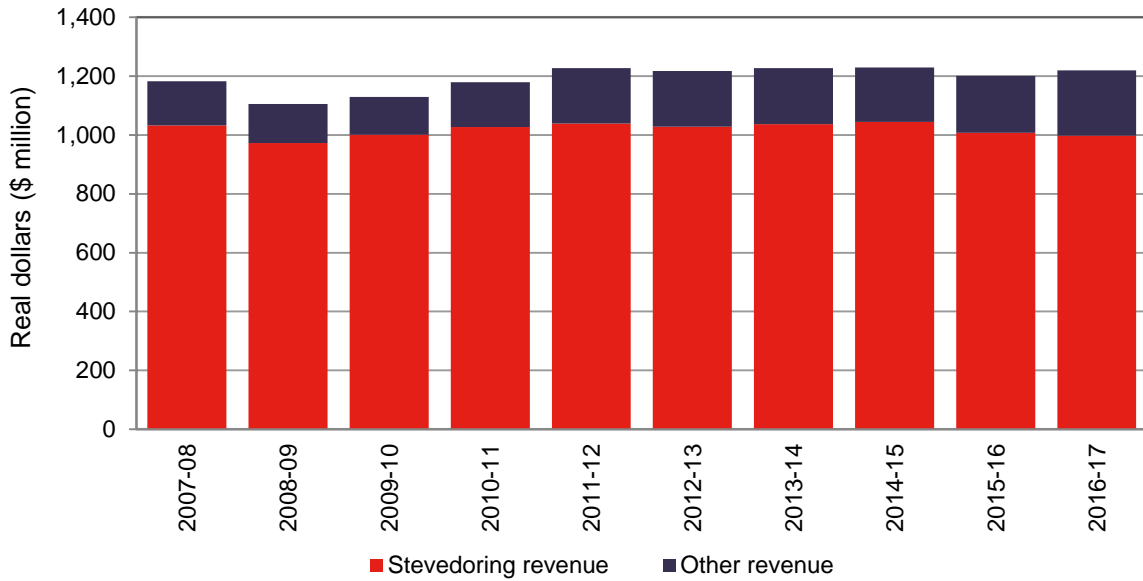
4.2.1. Total revenues

Total revenue refers to all revenue that stevedores earn across their suite of services, from its core stevedoring functions as well as from other services they provide at container terminals such as container repositioning, storage and maintenance.

Figure 4.1 illustrates that in 2016-17 there was a slight decline in real stevedoring revenue (by 1 per cent), the industry's pre-eminent source of revenue. This reduction missed expectations that it would increase in light of the growth in container volumes. Real stevedoring revenue has traditionally followed movement in container volumes since the ACCC's monitoring program began.

However, despite the continued contraction in stevedoring revenue, total revenues increased by 1.6 per cent in 2016-17. This was largely due to revenue from non-stevedoring activities growing by 14.9 per cent.

Figure 4.1: Total revenues



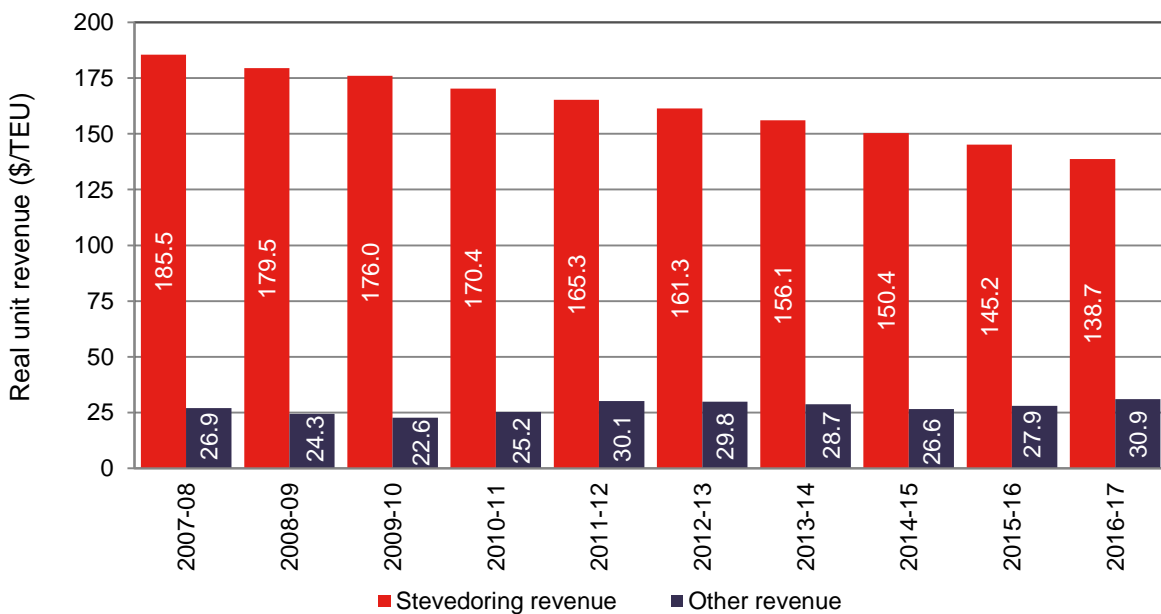
Source: Nominal data provided by stevedores is converted to real terms using a deflator series derived from the ABS CPI (cat. no. 6401.0, Tables 1 and 2, Index Numbers; All groups CPI; Australia). Base year for ACCC deflator series: 2016-17.

4.2.2. Unit revenues

Unit revenue acts as a proxy for prices charged by stevedores per TEU lifted. This measure is calculated by dividing the industry’s total revenue with the total volume of containers lifted (in TEUs). Unit revenue is thus a weighted average of all revenue earned on all types of containers.

Figure 4.2 illustrates the changes in real total revenue on a per TEU basis from 2007-08 to 2016-17. At an aggregate level, in 2016-17, stevedores collected \$138.8 and \$30.9 per TEU in stevedoring and other revenue respectively, or \$169.7 per TEU in total revenue. Per unit total revenue decreased by 2.0 per cent in 2016-17.

Figure 4.2: Unit revenues



Source: Nominal data provided by stevedores is converted to real terms using a deflator series derived from the ABS CPI (cat. no. 6401.0, Tables 1 and 2, Index Numbers; All groups CPI; Australia). Base year for ACCC deflator series: 2016-17.

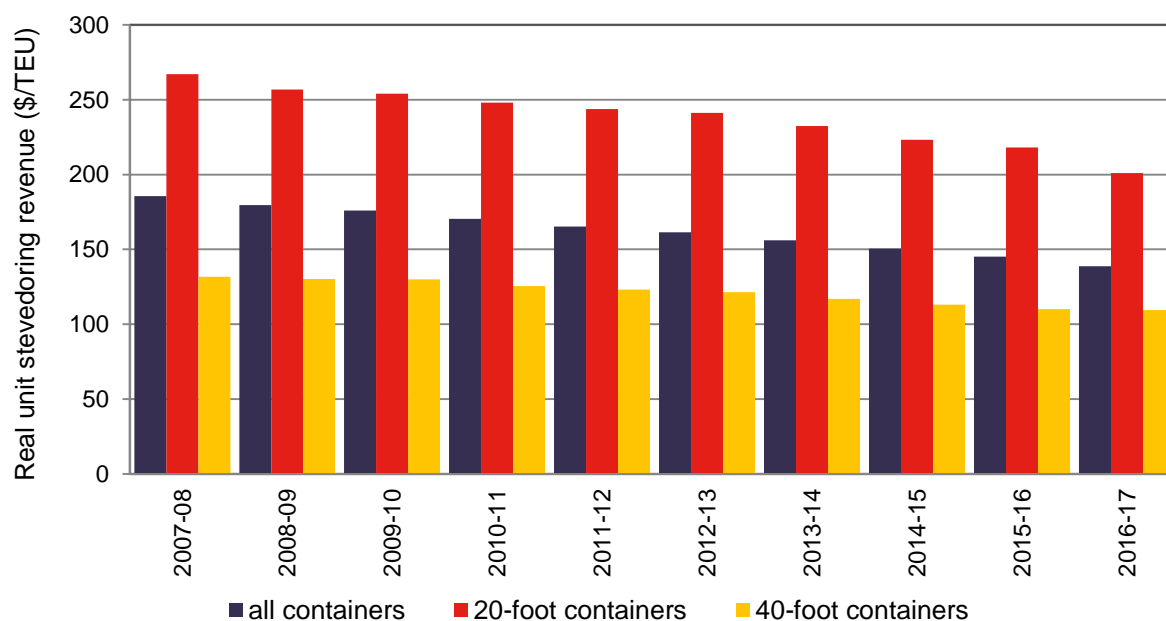
Figure 4.2 also shows that both unit stevedoring revenue and unit total revenue have fallen about one-fifth in real terms since 2007-08. Unit revenue from non-stevedoring activities has fluctuated between around \$27 and \$31 per TEU during the period.

4.2.3. Stevedoring revenue

Real stevedoring revenue per TEU, the proxy for prices charged on shipping lines, fell by 4.5 per cent in 2016-17. This result follows the yearly reduction in real unit stevedoring revenue over the past ten years. The cause for this downward trend is multi-faceted. One is the increasing use of 40 foot containers, instead of 20 foot containers.⁸⁰ Since there is not a large differentiation in stevedoring rates between 20 and 40 foot containers, it follows that a proportionate increase in 40 foot containers will result in lower average unit stevedoring revenue.

Moreover, information provided to the ACCC indicate that stevedores have been lowering stevedoring rates in an effort to maintain market share and win new business. In addition, stevedores noted that whenever shipping line mergers/consolidations occur, the lowest tariff typically tends to be adopted by the merged entity. Increased service choice and capacity from the entry of new stevedores such as Hutchison and VICT is also exerting a downward pressure on stevedoring rates.

Figure 4.3: Unit stevedoring revenue by type of container



Source: Nominal data provided by stevedores is converted to real terms using a deflator series derived from the ABS CPI (cat. no. 6401.0, Tables 1 and 2, Index Numbers; All groups CPI; Australia). Base year for ACCC deflator series: 2016-17.

Figure 4.3 isolates the effects of product mix changes and enables a comparison of changes in unit stevedoring revenue among 20 and 40 foot containers over time.

- For 20 foot containers, real unit stevedoring revenue has decreased by 24.8 per cent from \$267.1 in 2007-08 to \$200.9 in 2016-17.
- For 40 foot containers, real unit stevedoring revenue has decreased by 16.9 per cent from \$131.7 in 2007-08 to \$109.5 in 2016-17.

⁸⁰ This trend is explored in greater detail in section 3.2.2.

- In average terms, unit stevedoring revenue earned on all containers has fallen by 25.2 per cent in real terms in the past ten years, or from \$185.5 in 2007-08 to \$138.8.

4.2.4. Non-stevedoring revenue

Non-stevedoring revenue consists of revenue collected by stevedores on business functions separate from its core stevedoring activities. Per unit revenue from these activities increased by 10.8 per cent in real terms in 2016-17.

Non-stevedoring revenue has become an increasingly important source of income for the stevedores. Indeed, this revenue type increased by 14.9 per cent per TEU in the past ten years, in contrast to the 25.2 per cent decline in unit stevedoring revenue over the same period.

A brief discussion of broad trends in the major components of non-stevedoring revenue is presented below.

- **Ancillary** – this typically includes revenue from various terminal charges and logistics services such as Internal Transfer Vehicles (ITV), ancillary rail, third party sales, as well as infrastructure charges. Real ancillary revenue increased by 25.2 per cent in 2016-17 primarily due to a significant increase in infrastructure charge revenue by DP World.
 - **Infrastructure charges** - Patrick and DP World either introduced or substantially increased existing levies to land transport operators on account of property costs rising well above CPI and extraordinary levels of capital expenditure.

The ACCC is currently unable to fully quantify the impact of the infrastructure charges on industry revenues since the levies did not take effect until later in the 2016-17 financial year.⁸¹ However, additional revenue from this charge is expected to accelerate the growth in non-stevedoring revenue.
- **Vehicle Booking System** – automated VBS is used to manage the landside flow of containers in and out of Australia's major container ports. Real VBS revenue increased by 12.2 per cent in 2016-17.
- **Storage** – while containers handled by stevedores are subject to a Free Storage Period (FSP) of three working days, stevedores charge their customers for containers that are not collected within this period. There are also power-related charges for servicing reefer-type containers, as well as extra charges for handling hazardous containers. Real storage revenue rose 16.9 per cent in 2016-17.

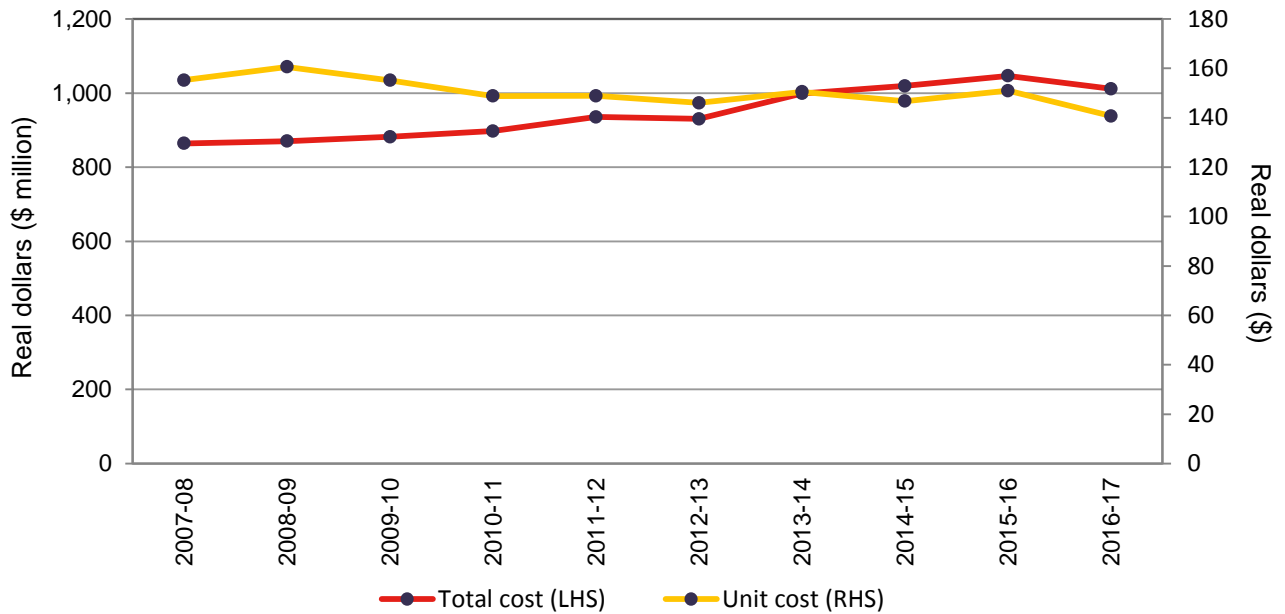
4.3. Costs

4.3.1. Total and unit costs

Stevedoring industry costs comprise primarily of labour, equipment, and property. In absolute and real terms, these costs generally increase over time in line with the increase in container throughput and the increase in demand for stevedoring services. As shown in Figure 4.4 below, real total costs have been trending upwards over the past 10 years but decreased by 2.8 per cent in real terms in 2016-17.

⁸¹ DP World's new or increased infrastructure charges were only in effect from 18 April 2017, while Patrick's charges were in effect from 10 July. As such, the impact of the infrastructure charges on industry revenues may only be fully examined in next year's monitoring report.

Figure 4.4: Total and unit costs



Source: Nominal data provided by stevedores is converted to real terms using a deflator series derived from the ABS CPI (cat. no. 6401.0, Tables 1 and 2, Index Numbers; All groups CPI; Australia). Base year for ACCC deflator series: 2016-17.

Real unit costs have fallen substantially since the waterside reforms in 1998-99 when they were around \$261 per TEU. As shown in Figure 4.4, this trend continued in 2016-17 with real costs per TEU falling by 6.8 per cent to \$140.7.

While unit costs have fluctuated in the ten-year period, there has been a small general downward trend. It is likely that increasing economies of scale driven by the growth in container volumes has been a contributing factor to this downward trend. Although expected to be incremental, sustained container throughput growth in Australian ports in the coming years may continue this downward pressure on unit costs. Cost consolidation by the stevedores, particularly by Hutchison, on a number of operational fronts has also had an impact – particularly on labour costs and other overhead expenses.

However, there may be future headwinds in the industry’s efforts to reduce unit costs. These include:

- VICT’s entry as the third stevedore in the Port of Melbourne. Similar to Hutchison’s entry in 2013, VICT will initially face scale issues with its relatively high fixed costs (more so than other stevedores due to advanced automation) that is not accompanied by high volumes.
- Increased depreciation expenses in the automation of terminal operations and as stevedores may look to accommodate ever growing ship sizes.
- Continued rent increases imposed by port monopolies through scheduled market rent reviews.

4.3.3. Relative cost shares

Over the past ten years, there have generally been no significant changes in the spread of total costs among major elements such as labour, equipment, property.

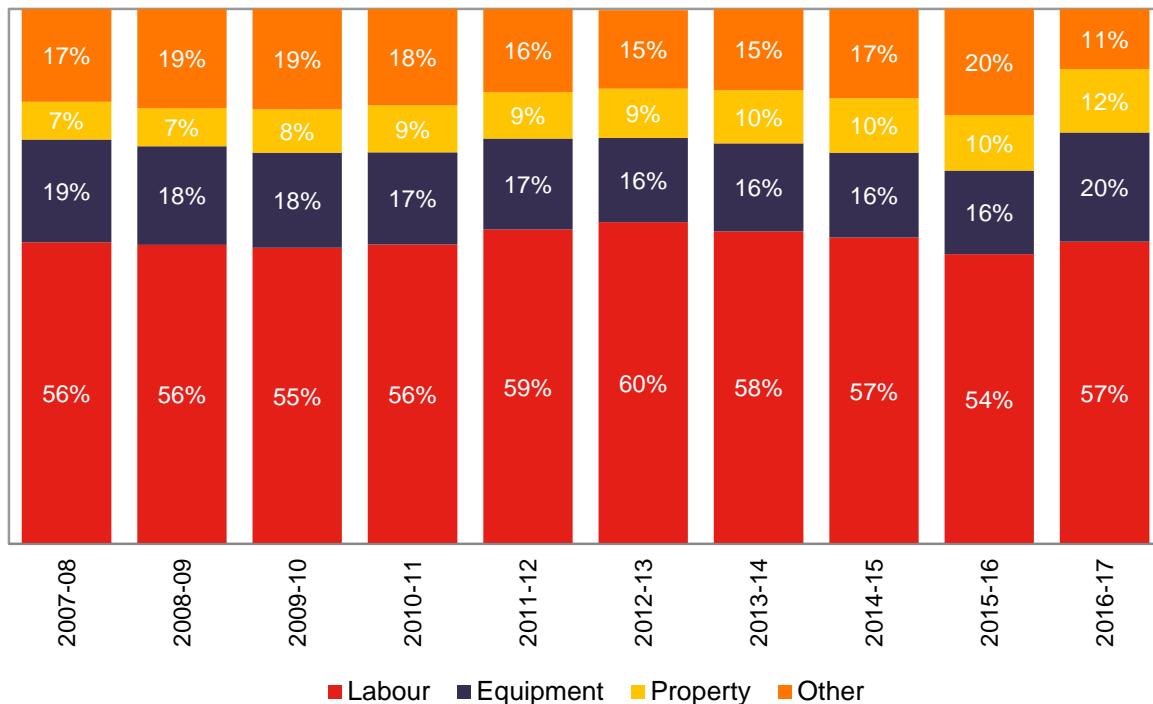
However, in 2016-17, the level of ‘other’ or indirect costs and its proportion of per TEU total costs have fallen significantly. This trend reflects lower port management and overhead costs, as well as the reversal of significant outlays relating to extraordinary project costs and industrial unrest in 2015-16.

Labour and equipment costs have traditionally taken up the largest shares of unit costs since 2007-08. Labour costs per TEU were flat in 2016-17, but its share of total costs increased.⁸² On the other hand, equipment cost per TEU and its share of total costs increased significantly in 2016-17 following increases in capital depreciation as well as equipment running and maintenance costs.⁸³ Absolute levels of equipment spending have been rising slowly following the entry of Hutchison in 2013-14, and DP World and Patrick’s terminal automation projects in the years following. Equipment costs and its share of per unit costs will likely continue to increase in the coming years as VICT enters the industry with a highly capital-intensive container terminal.

Property costs have also been increasing gradually in the ten years to 2016-17. The 7.9 per cent per TEU real increase in 2016-17 mainly reflects rates, rent and property tax increases in Sydney, Melbourne and Fremantle.

Figure 4.5 illustrates the changes in the share of total costs attributed to key cost components over the past ten years.

Figure 4.5: Components of unit costs



Source: Nominal data provided by stevedores.

82 In 2016-17, Patrick reclassified significant maintenance subcontracting expenses from ‘labour’ to ‘equipment’ costs in its financial accounts. Isolating the effects of this reveal that unit labour and equipment costs both increased in 2016-17.

83 Ibid.

4.4. Profitability

The profits stevedores make relative to revenue can provide an indication of the financial health of the industry, how competitive the industry is and the degree to which the operators hold market power.

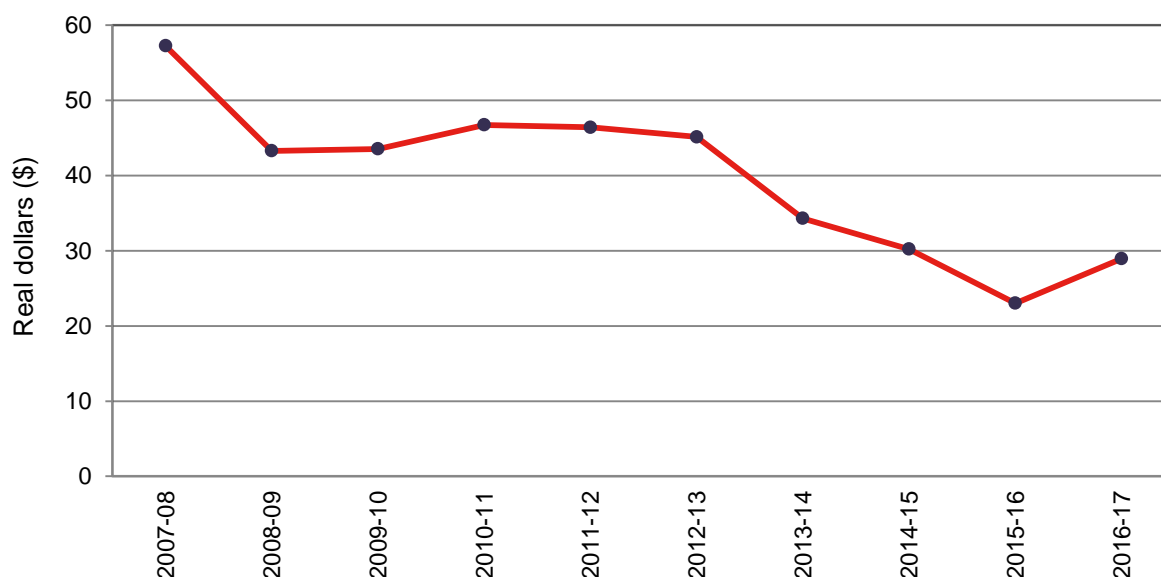
In measuring profitability, earnings before interest, taxation, and amortisation (EBITA) is used as it is not affected by management decisions regarding financial capital structures and taxation arrangements which vary substantially among companies.⁸⁴

4.4.1. Operating profits

Operating profits (EBITA) per TEU⁸⁵ acts as a proxy for the profits made per unit of container handled by the industry.

Figure 4.6 shows the declining trend in the industry's operating profits over the last decade. During this period, operating profits have declined by a total of 49.5 per cent.

Figure 4.6: Operating profits (EBITA per TEU)



Source: Nominal data provided by stevedores is converted to real terms using a deflator series derived from the ABS CPI (cat. no. 6401.0, Tables 1 and 2, Index Numbers; All groups CPI; Australia). Base year for ACCC deflator series: 2016-17.

However, operating profits per TEU made a strong recovery over the past year, rising by 25.7 per cent to \$28.9. This follows a slight decrease in real unit revenues, but a relatively greater improvement in real unit costs.

Unit cost increases associated with Hutchison's entry to the industry diluted operating profits from 2013-14. The ACCC expects the same effect following VICT's entry in Melbourne. The general downward trend in operating profits is also explained by falling tariff rates as stevedores try to maintain market share and win new business. Incremental throughput growths in containerised trade, greater bargaining power on the part of shipping lines and increased supplier choice and capacity also contribute to exerting a downward pressure on revenues and operating profits.

⁸⁴ More information on EBITA is available in Appendix A.3.

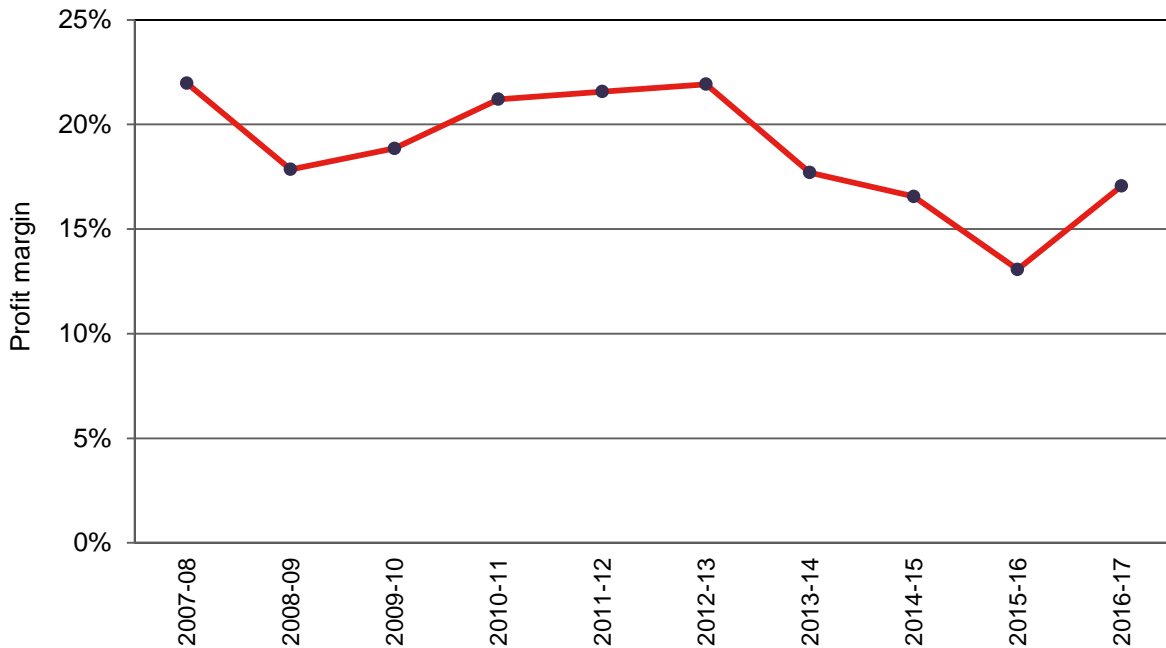
⁸⁵ This report has previously used the term "unit margins" to describe operating profits.

4.4.2. Operating profit margins

The ratio of EBITA against real total revenue isolates the effects of varying operational size among stevedores and allows a broader assessment of the industry’s operating profitability.

As shown in Figure 4.7, industry profit margins rose by 4.0 percentage points to 17.1 per cent in 2016-17. This is the first recovery in overall margins since Hutchison’s entry to the industry in 2012-13. Of the four stevedores, Patrick had the highest profit margin in 2016-17.

Figure 4.7: Industry profit margins (EBITA over real total revenue)



Source: Nominal data provided by stevedores is converted to real terms using a deflator series derived from the ABS CPI (cat. no. 6401.0, Tables 1 and 2, Index Numbers; All groups CPI; Australia). Base year for ACCC deflator series: 2016-17.

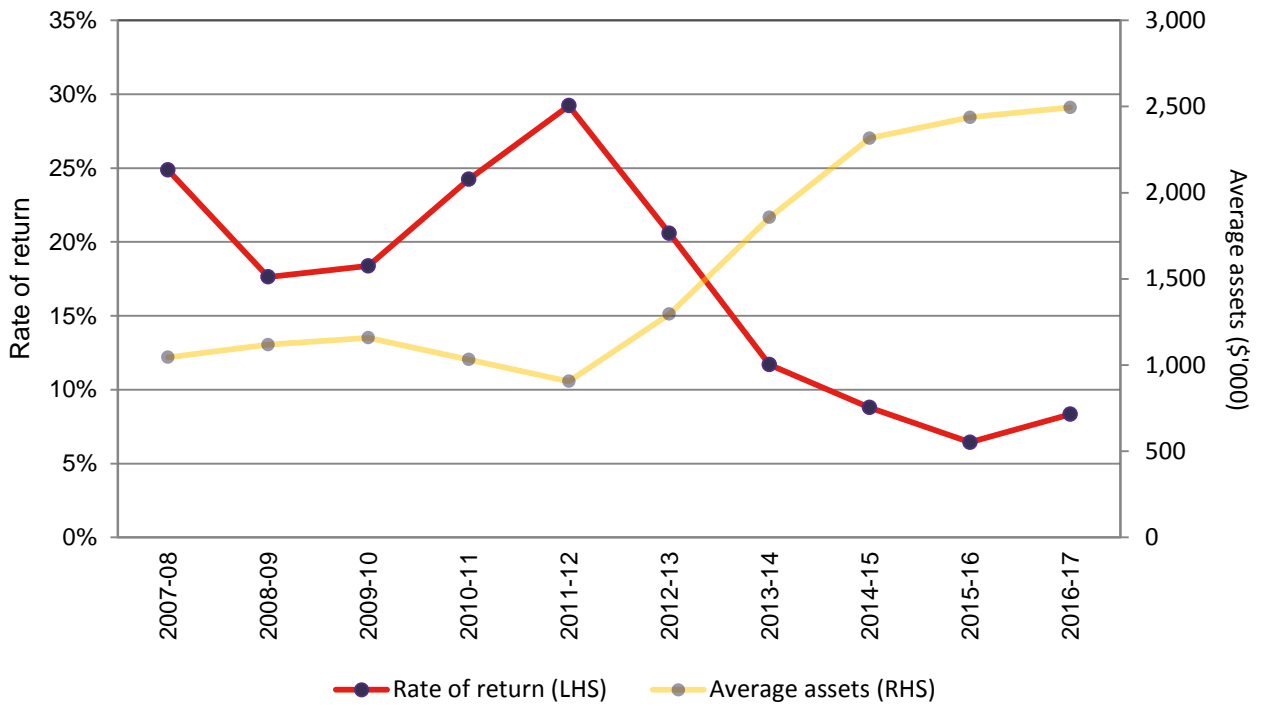
This increase in margins can be attributed to large cost consolidation and improvements in the industry’s operational efficiency. However, higher non-stevedoring revenue has also played a part in growing profit margins.

4.4.3. Rates of return on assets

Rate of return on assets⁸⁶ is another measure of profitability for the stevedoring industry. The ratio of EBITA and the average value of opening and closing balances of tangible assets (physical infrastructure) is a useful proxy for the industry’s effectiveness as stewards of physical capital to produce profit.

⁸⁶ More information on the ACCC’s approach in measuring the industry’s return on assets is available in Appendix A.3.

Figure 4.8: Stevedores’ rate of return (EBITA over average tangible assets)



Source: Nominal data provided by stevedores

Figure 4.8 shows annualised EBITA for the stevedores over the past ten years expressed as a percentage of average tangible assets. Since returns are a function of profits, they show a similar trend: an overall reduction from 24.9 per cent in 2007-08, but a strong recovery relative to the previous year to 8.3 per cent in 2016-17. Of the four stevedores, Flinders Adelaide had the highest return on average tangible assets in 2016-17.

The stevedoring industry’s return on assets has generally trended lower for a number of reasons. One is that over time, the industry’s asset base generally expands in line with inflation. Another reason is that stevedores have to maintain stable levels of capital expenditure to upgrade or replace existing equipment. However, large expansions to the asset base are typically attributed to market entry by firms, such as in 2013 with Hutchison’s entry. It is expected that similar asset base expansion following VICT’s entry would see the industry rate of return fall further.

The profitability of Flinders Adelaide, Patrick or DP World remains significantly higher than Hutchison’s although there were marked improvements in the latter’s profitability in 2016-17.

5. Stevedores' comparative performance

5.1. Introduction

This chapter presents data submitted to the ACCC by the four stevedores operating in Australia's monitored ports throughout the whole of 2016-17: DP World, Patrick, Hutchison, and Flinders Adelaide. VICT will provide data for the first time for next year's monitoring report. Key observations on the four stevedores' throughput, as well as factors affecting their revenues, costs and profits are outlined in this chapter.

Individual company data is indexed to protect commercially-sensitive information while allowing movements in revenues, costs and profits to be measured over time. Supplementary data on trends in specific cost categories for each of the stevedores can be found on the [ACCC's website](#).

5.2. DP World Australia

DP World is Australia's leading stevedore by container volumes handled. It operates container terminal operations in the ports of Melbourne, Sydney, Brisbane and Fremantle. DP World acquired its Australian terminals following its 2006 purchase of P&O Ports (the Peninsular and Oriental Steam Navigation Company). DP World Australia is part of DP World's global business, which operates more than 65 marine terminals across six continents.

5.2.1. Container volumes

In 2016-17, the number of TEUs handled by DP World decreased by 0.3 per cent to 3.2 million TEUs. Volumes increased by 4.8 per cent in Melbourne and 1.6 per cent in Brisbane, but volumes decreased by 5.9 per cent in Sydney and 4.1 per cent in Fremantle. The contraction in Sydney was the result of the end of sub-contracting work from the previous year.

DP World's handling of 20 foot containers decreased by 1.6 per cent, while the number of 40 foot containers increased by 0.3 per cent.

Recently, DP World secured a number of contracts including a majority share of the Australia to Asia A3 shipping contract⁸⁷ and an extension of its contract period with China Ocean Shipping Company (COSCO).⁸⁸ There is potential for these contracts to increase volumes handled in Melbourne.

5.2.2. Revenue

In 2016-17 DP World's total revenue across all ports increased by 1.5 per cent, with per unit total revenue increasing by 1.8 per cent. While unit stevedoring revenue decreased by 1.9 per cent, non-stevedoring revenue per TEU increased by 19.6 per cent. The increase in DP World's non-stevedoring revenue came from increased infrastructure charge, container repositioning, and storage revenues.

87 DP World Australia Ltd, 'DP World Australia awarded majority of A3 shipping contracts', 10 July 2017, <http://www.dpworldaustralia.com.au/news-and-media/media-releases/dp-world-australia-awarded-majority-of-australia-to-asia-a3-shipping-contracts/>.

88 Jenny Wiggins, 'DP World deepens ties with COSCO as Chinese shipper snaps up competitors', *Australian Financial Review*, 10 July 2017.

In April 2017, DP World introduced an infrastructure charge in its port operations in Sydney and substantially increased existing levies in its Melbourne terminal⁸⁹ as a response to rent hikes by port owners in Sydney and Melbourne.⁹⁰ As such, the full effect of the charges on DP World's revenue may only be fully examined in future monitoring reports.

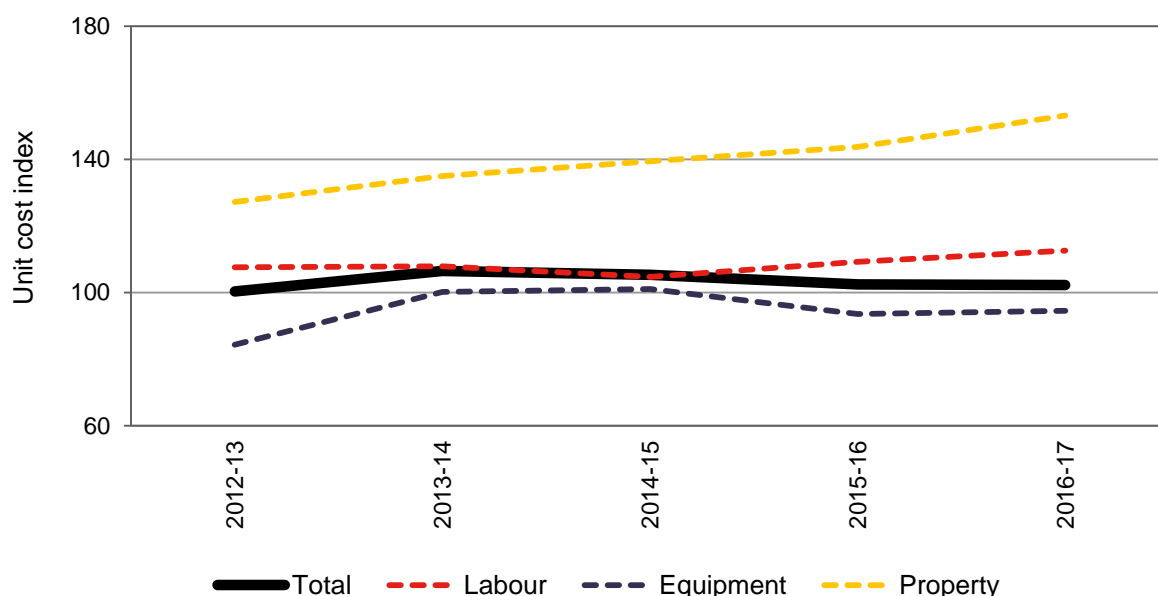
5.2.3. Costs

At an aggregate level, DP World's total costs were unchanged in 2016-17, and overall per unit costs across all ports were also unchanged.

In justifying its infrastructure charges to the ACCC, DP World highlighted increased operational cost pressures following port privatisation and the consolidation of the shipping industry. DP World also underlined its need to pass on costs relating to other property-related expenditure (e.g. council, land and water rates), the expansion and maintenance of pavement berths in Melbourne and Sydney, improved landside efficiencies and a forecast need for significant capital expansion to handle larger shipping vessels.

Figure 5.1 shows that DP World's property costs per unit have been trending upwards post privatisation of the east coast ports. A full year of the substantially higher Melbourne terminal rent means that this trend is likely to continue into next year.

Figure 5.1: Movements in cost components per unit



Source: Nominal data provided by DP World indexed to a base-year of 2007-08.

Note: Total cost includes non-stevedoring costs.

Overall per unit costs have remained relatively unchanged over the five year period. This is due to DP World's efficiencies in its overhead expenses and port management costs during this time. DP World advised that its reported figures to the ACCC are unlikely to fully reflect the true increase in costs facing the business. Reasons for this include an accrual cost for 2015-16 that was subsequently reversed in 2016-17, as well as extraordinary project and redundancy costs included in its 2015-16 accounts.

⁸⁹ In its Brisbane terminal, DP World maintained its infrastructure charge of \$32.74 per laden container.

⁹⁰ Michael Smith, 'From ports to post: DP World boss speaks out', *Australian Financial Review*, 5 August 2017.

5.2.4. Operating profit

DP World's national operating profit per TEU increased by 14.1 per cent in 2016-17 on account of significant increases in non-stevedoring revenues per unit. However, DP World advised the ACCC of the effects of extraordinary redundancy and project costs in dampening its 2015-16 and that isolating these costs would reveal an underlying flat financial performance in 2016-17.

DP World's national operating profitability has been relatively flat over the past five years, but has been improving since 2014-15. This is largely due to improving productivity and a marked growth in non-stevedoring revenue that has partially offset the effects of slower than expected throughput growth and declining unit stevedoring revenue.

5.3. Patrick Terminals

Patrick Terminals has provided various waterfront-related services on Australian ports since 1919, but the company has only focused on providing stevedoring services since the 1950s. Since then, Patrick has become one of the largest stevedoring businesses in Australia with operations in the ports of Melbourne, Sydney, Brisbane, and Fremantle. Formerly part of Asciano Holdings, Patrick was acquired in August 2016 in a joint venture by Qube Holdings and Brookfield Infrastructure Partners. Qube is Australia's largest integrated provider of import and export logistics services with national operations that provide a broad range of services. It considered that its ownership of Patrick contained significant synergies with its existing logistics business, and would enable it to invest in rail operations and support a more reliable logistics supply chain from port to importer and importer to port.

5.3.1. Container volumes

In 2016-17, the number of TEUs handled by Patrick across all ports increased by 0.9 per cent to 3.15 million TEUs, following a 2.0 per cent increase in 2015-16. Patrick's handling of 20 foot containers decreased by 1.2 per cent nationally, while the number of 40 foot containers increased 0.9 per cent.

Patrick's loss of the shipping contract with the A3 consortium to DP World and Hutchison is expected to have a significant impact on their business. Patrick previously held a sizeable share of the A3 contract which in its entirety accounts for around 10 per cent of Australia's east coast container shipping market.⁹¹

5.3.2. Revenue

Patrick's total revenue marginally increased across all ports by 0.6 per cent in 2016-17. However, on a per unit basis, revenues decreased by 0.3 per cent. Unit stevedoring revenue contracted by 3.2 per cent, while unit revenues from other activities grew by 18.0 per cent. The bulk of Patrick's small total revenue growth in 2016-17 is attributed to significant increases in revenue from services such as storage, container repositioning and other ancillaries.

Patrick announced the introduction of new or substantially increased infrastructure charges in their port operations in Melbourne, Sydney, Brisbane and Fremantle commencing 10 July 2017. The effect of these charges on Patrick's total revenue will be measured in next year's monitoring report.

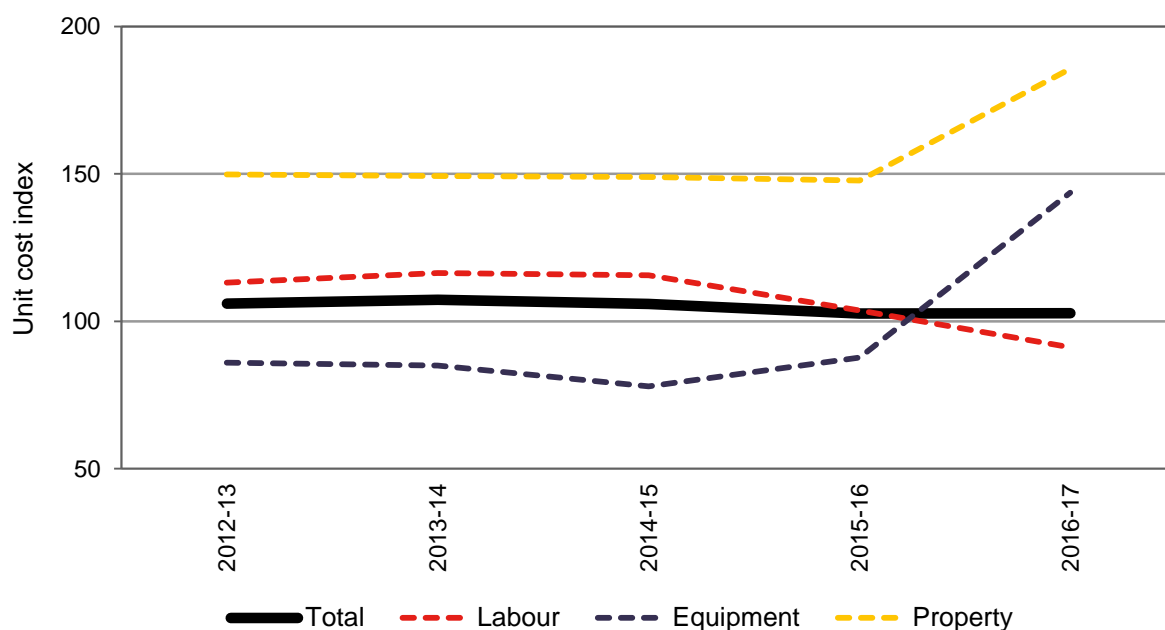
91 Michael Smith, 'DP World battle-ready for Patrick after A3 win', *Australian Financial Review*, 21 September 2016.

5.3.3. Costs

At an aggregate level, Patrick’s unit costs have remained largely unchanged from 2012-13 to 2016-17. Total per unit costs increased by only 0.1 per cent in 2016-17 nationally.

Figure 5.3 illustrates that there was a significant increase of 25.6 per cent in Patrick’s national property costs per unit in 2016-17. This reflects a 59.8 per cent increase in per TEU costs in Melbourne and a 39.5 per cent increase in Fremantle. Patrick told the ACCC that its 2016-17 financial reports partially take in to account the cost impact of expected rent review outcomes with port authorities.

Figure 5.2: Movements in cost components per unit



Source: Nominal data provided by Patrick indexed to a base-year of 2007-08.

Note: Total cost includes non-stevedoring costs.

As a result of automation in its Sydney Terminal (i.e. machines replacing workers), there was a significant decline from 2015-16 in per unit labour costs and proportional increase in per unit equipment costs. While Figure 5.3 also shows a contrasting movement of equipment and labour costs in 2016-17, much of this was due to Patrick’s reclassification of subcontracting expenses under equipment costs instead of labour in its financial accounts. Isolating the effects of this reclassification, Patrick’s labour and equipment costs per TEU have both increased in 2016-17.

In its communication with the ACCC, Patrick highlighted property costs rising above CPI and cost recovery from landside efficiency investments as justification for the introduction of new and increased infrastructure charges.

5.3.4. Operating profit

Patrick’s national operating profit (EBITA) per unit contracted slightly (by 1.2 per cent) in 2016-17. In the past five years, Patrick’s national operating profit per unit has been resilient against increasing pressure on stevedoring revenues.

5.4. Hutchison Ports Australia

Hutchison Ports Australia commenced operating a container terminal at Brisbane in January 2013 and at Sydney in November 2013. Hutchison Ports Australia is a subsidiary of the Hong-Kong based Hutchison Port Holdings, the world's largest port operator by container volumes handled.⁹²

The time series on Hutchison's revenues, costs and margins is limited in this report because the company is still establishing itself in the industry. 2016-17 is the third monitoring period that Hutchison has recorded full-financial year data in both Sydney and Brisbane.

5.4.1. Container volumes

Hutchison's national container volumes increased to about 420,000 TEUs in 2016-17. This increase of 116.2 per cent in volumes is largely due to Hutchison winning a minority share of the A3 Consortium shipping contract. Hutchison's handling of 20 foot containers increased by 65.7 per cent, while the number of 40 foot containers increased by 149.4 per cent.

The increase in Hutchison's national volumes in 2016-17 was significant. However, there is still a long way before Hutchison fully establishes itself as an effective competitor to incumbent terminal operators in Sydney and Brisbane. Indeed, Hutchison's volumes still only account for 12.3 per cent and 9.7 per cent of total containers handled in Sydney and Brisbane respectively, and around 6 per cent of national volumes.

5.4.2. Revenue

Hutchison's total revenue increased by 46.9 per cent due to the significant growth in container volumes. However, stevedoring revenues per TEU decreased by 10.5 per cent in line with Hutchison's reports of falling tariff rates.

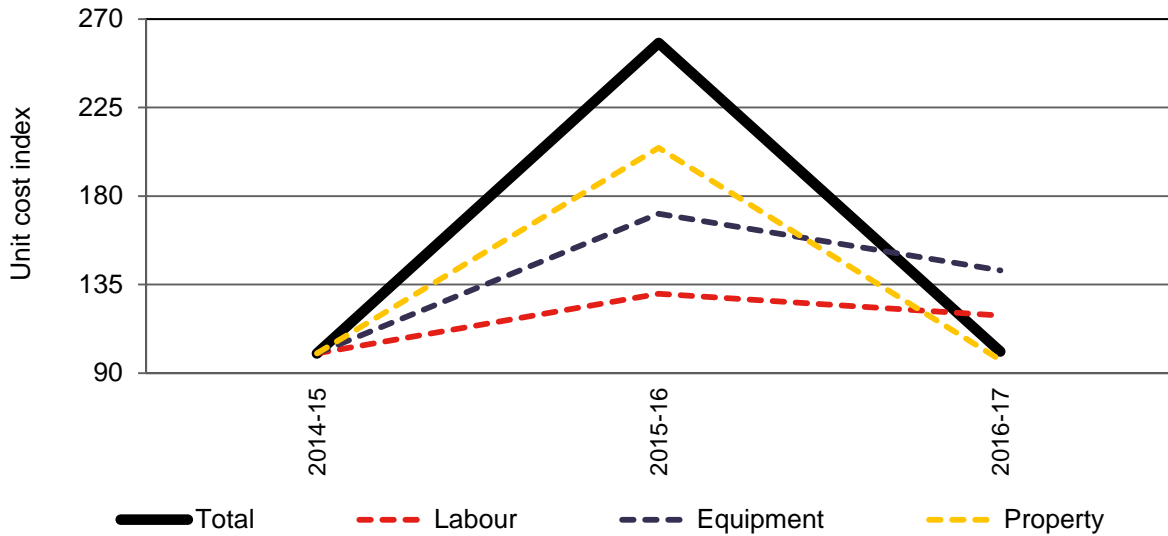
Hutchison also has infrastructure levies in place in its Brisbane terminal, however no changes were made in its charges in the past year.

5.4.3. Costs

In 2016-17, Hutchison's total costs decreased by 15.4 per cent on account of a 68.1 per cent reduction in other overhead expenses.

92 Julia Louppova, 'Drewry presents its 2016 Container Terminal Operators research', Port Today, 20 October 2016, <https://port.today/drewry-presents-its-2016-container-terminal-operators-research/>.

Figure 5.3: Movements in cost components per unit



Source: Nominal data provided by Hutchison indexed to a base-year of 2014-15.

Note: Total cost includes non-stevedoring costs.

There were significant increases in Hutchison’s operating expenditure in 2016-17, with total labour costs growing by 97.9 per cent and equipment costs by 79.8 per cent. However, Figure 5.5 illustrates that large volume growths have led to decreases of 8.4 per cent in unit labour costs and 16.8 per cent in unit equipment costs. Significant reductions in non-stevedoring costs have also led to a 60.9 per cent decline in Hutchison’s total costs per container handled.

5.4.4. Operating profit

In 2016-17, Hutchison’s total costs have continued to exceed its total revenues. However, total operating losses this year have improved by 46.9 per cent, the first upward movement in Hutchison’s EBITA since it commenced its operations in Australia.

5.5. Flinders Adelaide Container Terminal

Flinders Adelaide is the operator of South Australia's only international container terminal. Flinders Adelaide is currently only servicing Adelaide. Formerly DP World Adelaide, Flinders Adelaide was fully acquired and vertically-integrated in 2012 with the South Australian port operator, Flinders Port Holdings.

5.5.1. Container volumes

In 2016-17, the number of TEUs handled by Flinders Adelaide at the Port of Adelaide increased by 2.9 per cent to about 402,000 TEUs, following a 6.1 per cent increase in the preceding year. Flinders Adelaide's handling of 20 foot containers increased by 13.3 per cent, while the number of 40 foot containers decreased by 3.8 per cent. In its consultation with the ACCC, Flinders Adelaide said that growth in the Adelaide container market is highly variable due to it being dependent on seasonal availability of export products.

5.5.2. Revenue

Flinders Adelaide's total revenue increased by 10.2 per cent in 2016-17 and it also had an increase in per unit revenue of 7.1 per cent. This is due to a 55.1 per cent increase in revenue from Flinders Adelaide's non-stevedoring activities such as ancillary, VBS and container repositioning.

Total revenue per TEU increased by 7.1 per cent following a 50.8 per cent in non-stevedoring revenue per TEU and a marginal increase of 0.9 per cent in stevedoring revenue per TEU.

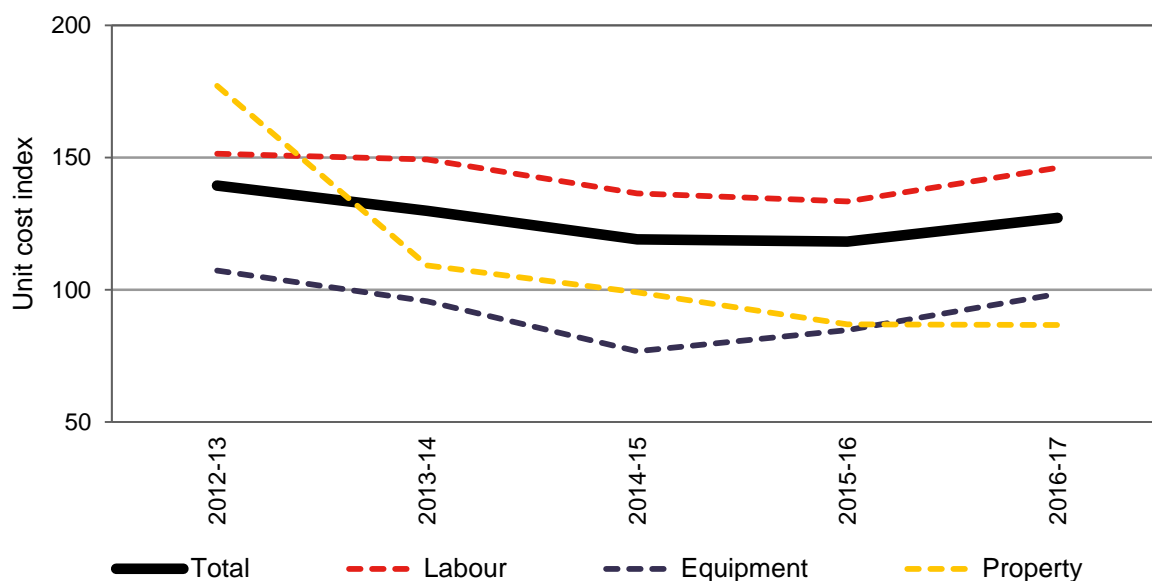
Flinders Adelaide does not charge an infrastructure levy in its Adelaide terminal.

5.5.3. Costs

Flinders Adelaide's total costs increased by 10.7 per cent in 2016-17 following a 13.6 per cent increase in stevedoring labour costs, and a 75.1 and 28.1 per cent increase in equipment maintenance and running costs respectively.

As shown in Figure 5.7 below, Flinders Adelaide's total costs per unit have decreased slightly from 2012-13. Labour costs per unit have fallen over the same period but increased by 9.6 per cent in 2016-17 on account of significant increases in stevedoring and administrative labour expenses. Equipment costs per TEU have also trended upward from 2014-15 given increasing equipment running and maintenance costs.

Figure 5.4: Movements in cost components per unit



Source: Nominal data provided by Flinders Adelaide indexed to a base-year of 2007-08.

Note: Total cost includes non-stevedoring costs.

Flinders Adelaide’s property cost per TEU is the lowest among all the stevedores operating in Australia. Its property costs have been consistently falling since 2012-13 when it was acquired by Flinders Port Holdings.

5.5.4. Operating Profits

Flinders Adelaide’s operating profits per unit increased by 4.7 per cent in 2016-17 on account of a larger increase in absolute unit revenue than unit costs.

Flinders Adelaide’s operating profits per TEU have fallen significantly (28.3 per cent) since 2012-13. Flinders Adelaide’s unit stevedoring revenues, costs and profits have been trending downwards over the same period but have been relatively stable. The variability in Flinders Adelaide’s operating profits is caused by fluctuating levels of non-stevedoring revenue over the same period.

5.6. Victoria International Container Terminal (VICT)

Victoria International Container Terminal (VICT) is the most recent entrant to the container stevedoring industry in Australia, having serviced its first vessel in early 2017. VICT is currently only operating at its Webb Dock in Melbourne and is the first Australian stevedore to fully automate most of its terminal operations. VICT is owned by the Philippines-based International Container Terminal Services Incorporated (ICTSI). ICTSI is an experienced private port operator with an operational network spanning more than 30 terminals across 20 countries.

The ACCC has exempted VICT from providing data for the 2016-17 monitoring program as it commenced operations in the middle of the financial year. VICT will commence reporting its data in full for the 2017-18 Container Stevedoring Monitoring Report.

Appendix A ACCC monitoring methodology

This appendix explains the ACCC's monitoring methodology and outlines the approach in assessing the profitability of stevedoring terminal operations in Australia.

A.1. Description of methodology

The ACCC's role, set out in the Ministerial direction, is to monitor prices, costs and profits at container terminals operating in Adelaide, Brisbane, Burnie, Fremantle, Melbourne and Sydney.

Data is provided by each of the container stevedores in response to a request from the ACCC at the conclusion of the financial year. We appreciate the cooperation of the stevedores in responding to these requests, which are made on a voluntary rather than mandatory basis. VICT will submit its first substantive data return for the 2017-18 year, despite commencing operations in 2016-17.

Much of the data provided to the ACCC is commercially sensitive. For this reason, the data is typically presented in the monitoring report for the industry as a whole, rather than broken down by stevedore. While useful, the aggregated nature of the data presented in the reports is currently masking very different financial outcomes between the established stevedores and the recent market entrants. Other data provided by the stevedores is used for the ACCC's internal analysis only and does not get presented in the monitoring report.

The data provided by the stevedores consists of container volumes, revenues, costs, earnings (EBITA) and profit. The stevedores will also describe key investments made during the year, as well as those planned for the future. The ACCC does not collect data on actual prices charged for stevedoring services as these are privately negotiated between stevedores and users.

The ACCC calculates revenues, costs and margins on a per unit basis, with unit revenues acting as a proxy for price. The standard unit is a twenty foot equivalent unit (TEU). There are typically two container sizes: 20 foot (equivalent to 1 TEU) and 40 foot (equivalent to 2 TEUs).⁹³ Stevedoring charges are typically calculated per lift and therefore the rate per TEU tends to be lower for 40 foot containers than for 20 foot containers. Consequently, the expected mix of 20 and 40 foot containers on a particular ship is an important factor for stevedores in determining the per lift rate charged to a shipping line.

Data provided by the stevedores is split by whether it relates to stevedoring or other terminal activities. Stevedoring revenue, which makes up the largest proportion of a stevedore's total revenue, is defined as the revenue attributable to the loading and unloading of cargo. Other revenues may include those relating to break-bulk work (e.g. non-containerised cargo such as bags, crates and barrels), storing and maintaining containers, and fees from transport operators using the stevedores' Vehicle Booking System and from infrastructure charges.

Financial data is adjusted for inflation to allow for meaningful comparisons between years. The figures in the 2016-17 monitoring report were adjusted for inflation using a different process to that used for previous reports. The two changes to the process were as follows:

- figures were adjusted using the ABS Consumer Price Index series (base year = 2017), rather than the past practice of using the ABS GDP deflator series (base year = 2001), and

⁹³ The ACCC is provided this information to enable separate calculations of revenue per TEU on both 20 foot and 40 foot containers.

- figures from past years were adjusted upwards in order to compare with the actual data for 2016-17, rather than the past practice of deflating figures to be comparable with the base year of 2001.

The stevedoring monitoring report also provides information on the productivity of the stevedores and other operational performance such as truck turnaround times. This information is kindly provided by the Bureau of Infrastructure, Transport and Regional Economics (BITRE) in advance of its publication in its *Waterline* series.

A.2. Industry consultation

The ACCC supplements its data collection activities by meeting directly with relevant stakeholders about the freight supply chain.

Each year, ACCC staff will meet directly with the stevedores as well as various port operators, shipping lines, transport companies and freight supply chain industry associations.

The ACCC's analysis and commentary in the container stevedoring monitoring report is also informed by work it does as part of investigations into possible breaches of the competition provisions within Part IV of the *Competition and Consumer Act 2010*. Such investigations also include assessments of proposed mergers or acquisitions. These investigations are typically conducted in private.

A.3. Measuring industry profitability

Earnings before interest, taxation and amortisation (EBITA)

There are a range of measures that can be used to assess a company's profitability. The ACCC commonly uses earnings before interest, taxation and amortisation (EBITA) in its monitoring reports of operating profitability. That is, it measures the earnings that the firm makes in its normal course of business, ignoring financial costs and the yearly write-off of long-term intangible assets.

EBITA is a useful measure for comparing companies because it excludes accounting costs that can vary greatly between companies due to factors other than operating performance. Interest payments can vary according to the choice of financing arrangements. Taxation can vary by political jurisdictions or different tax minimisation techniques. Amortisation can vary depending upon the subjective value placed on intangible assets such as goodwill, or because of different takeover histories.

Unlike other measures of operating profitability, EBITA includes the costs associated with the depreciation of tangible assets. This is important for infrastructure-based industries for which investment in facilities will represent a sizable proportion of overall costs.

Operating profit, profit margins and return on assets

The container stevedoring monitoring report presents operating profit in a number of different ways. The purpose of each indicator is to provide some context for the scale of the industry. Very high performance against these indicators may suggest that the level of competition within the industry is not sufficient to constrain the stevedores from setting high prices.

These indicators are:

- operating profit: revenue less costs per TEU
- profit margins: EBITA as a percentage of real revenue

- return on assets: EBITA as a percentage of average tangible assets.

The use of return on assets as a measure of profitability creates a few challenges. First, a company's assets can include a sizeable value for intangible assets. For stevedoring, intangible assets include goodwill and berth licensing agreements. However, the value attributed to intangibles may reflect an expectation, at the time of purchase or acquisition of assets for a business, to earn economic rents that may obscure changes in the profitability of providing services. For this reason the ACCC excludes intangible assets from the asset base when assessing performance.

The ACCC's approach of excluding intangible assets will create a difference between the stevedores' statutory reports and the ACCC's stevedoring monitoring reports. However, this is not unusual where price oversight of infrastructure is involved and is consistent with the broader ACCC approach with other industries (e.g. airport services).

The second challenge is that the return on assets measure can be affected by changes in asset values arising from asset revaluations, transfers, and sales. Asset valuation methods differ between businesses, which raise comparability issues. They may also change over time, which would impact time series analyses. The ACCC has not attempted to evaluate the suitability of stevedores' asset valuations since prices are not regulated. However, they are required to report asset values on a depreciated historical cost basis over time so that the ACCC can assess trends in profitability.⁹⁴

⁹⁴ While asset revaluations are permitted under international accounting standards, it is not suitable with the ACCC's monitoring program hence the effect of any revaluations made in 2016-17 is excluded. Asset information provided by the stevedores for the period ending 30 June 2017 reflects the opening value of tangible assets as at 30 June 2016 plus additions to assets, less depreciation of expenses and disposal of assets and write-downs of tangible assets that occurred in the 12 months to 30 June 2017.

s. 95ZE**Directions to monitor prices, costs and profits of an industry**

- (1) The Minister may give the Commission a written direction:
- (a) to monitor prices, costs and profits relating to the supply of goods and services by persons in a specified industry; and
 - (b) to give the Minister a report on the monitoring at a specified time or at specified intervals within a specified period.

Commercial confidentiality

- (2) The Commission must, in preparing such a report, have regard to the need for commercial confidentiality.

Public inspection

- (3) The Commission must also make copies of the report available for public inspection as soon as practicable after it gives the Minister the report.

s. 95ZG**Exceptions to price monitoring**

- (1) The Minister must not direct the Commission under this Division to monitor prices, costs and profits relating to a supply of goods or services of a particular description that is an exempt supply in relation to goods or services of that description.
- (2) The Minister must not direct the Commission under this Division to monitor prices, costs and profits of a State or Territory authority that supplies goods or services unless the State or Territory concerned has agreed to the direction being given.

s. 95G(7)**The Commission's functions under this Part****General**

- (7) In exercising its powers and performing its functions under this Part, the Commission must, subject to any directions given under section 95ZH, have particular regard to the following:
- (a) the need to maintain investment and employment, including the influence of profitability on investment and employment;
 - (b) the need to discourage a person who is in a position to substantially influence a market for goods or services from taking advantage of that power in setting prices;
 - (c) the need to discourage cost increases arising from increases in wages and changes in conditions of employment inconsistent with principles established by relevant industrial tribunals.

Appendix C Ministerial direction

COMMONWEALTH OF AUSTRALIA

Prices Surveillance Act 1983

DIRECTION NO 17

1. (1) I, Peter Costello, Treasurer, pursuant to section 27A of the Prices Surveillance Act 1983, hereby direct the Australian Competition and Consumer Commission to undertake monitoring of prices, costs and profits relating to the supply of services by a container terminal operator company in ports at the following locations:
 - (a) Adelaide;
 - (b) Brisbane;
 - (c) Burnie;
 - (d) Fremantle
 - (e) Melbourne; and
 - (f) Sydney.
2. (2) In this direction, 'container terminal operator company' means a provider of container stevedoring services in ports at the locations listed in paragraph (1).
3. (3) The ACCC is to report to me on its monitoring activities referred to in paragraph (1) within four months after the end of each financial year.



PETER COSTELLO

January 1999

Federal Register of Legislative Instruments F2008B00402