



Australian
Competition &
Consumer
Commission

Report

Container stevedoring monitoring report no. 15

October 2013



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Glossary

ABS	Australian Bureau of Statistics
ACCC	Australian Competition and Consumer Commission
ACS	Australian Customs and Border Protection Service
AIFRS	Australian equivalents to International Financial Reporting Standards
ASX	Australian Stock Exchange
BITRE	Bureau of Infrastructure, Transport and Regional Economics
CEFs	container examination facilities
CCA	<i>Competition and Consumer Act 2010</i>
COAG	Council of Australian Governments
CPI	consumer price index
EBA	enterprise bargaining agreement
EBIT	earnings before interest and tax
FACT	Flinders Adelaide Container Terminal Pty Ltd
GDP	gross domestic product
HPA	Hutchison Ports Australia
HVCI	Heavy Vehicle Charging and Investment
IPART	Independent Pricing and Regulatory Tribunal
PBLIS	Port Botany Landside Improvement Strategy
PC	Productivity Commission
PoMC	Port of Melbourne Corporation
PSA	Prices Surveillance Act 1983
SSFL	Southern Sydney Freight Line
S&P	Standard & Poors
TEU	20-foot equivalent unit
VBS	vehicle booking system

Key messages

Previous reforms have been highly successful

Australian container stevedoring has improved significantly since the waterfront reforms of 1998 and is now ready for the next stage of reforms.

The 1998 reforms were supported by the government, whose objectives included an end to over-manning and restrictive work practices, higher productivity, lower costs and effective use of technology. The ACCC was given a monitoring role at this time to assess the impact of these reforms on driving industry efficiency by examining changes in the stevedores' revenues, costs and profits over time.

These reforms have been a success. Increased labour and capital productivity has allowed the industry to benefit from the fast growth in container volumes over the past 15 years. Rapidly increasing demand has assisted the Australian stevedores to achieve lower real average unit costs and higher industry profits. Improved financial performance has facilitated substantial investment in container terminals. Users of quayside services (i.e. shipping lines) have benefited through lower real prices and better service levels.

Current reforms will bring more competition

Further change in Australian stevedoring is underway, this time as a result of some of Australia's largest port operators allowing opportunities for increased competition.

New terminals are being added at the three largest ports. One opened in Brisbane earlier this year and another is expected to open in Sydney in late 2013. A new terminal in Melbourne, Australia's largest container port, is expected to start operating in late 2016. The appetite of investors to operate new terminals demonstrates that Australian stevedoring is still an attractive industry to be in. New terminal operators and capacity expansion should bring more aggressive industry competition, as customers face greater choice of whom they deal with and stevedores face stronger incentives to deliver an improved service.

Challenges exist to drive future productivity

Amidst these positive changes, challenges still exist. Growth in container trade, while critical to the national economy, is expected to result in a doubling of Australia's freight task over the next twenty years. This will require targeted investments to improve road and rail connections to container terminals. For the right investment decisions to be made however, reforms to the way in which roads and rail tracks are funded and used to transport freight are required.

Reform priorities

There are three key areas where reform is critical if Australia is to avoid transport bottlenecks in and around our growing container ports:

1. **reform heavy vehicle road provision and charging** to better reflect the cost of road use and ensure the right investments in roads are undertaken.
2. **develop better signals for exporters and importers to exercise efficient modal choice** (i.e. whether to use road or rail freight) by removing unnecessary impediments to efficient rail freight to and from container ports.
3. **use pricing mechanisms to incentivise the transport industry to better use landside facilities**, such as through peak period pricing, which can encourage off-peak access to container terminals.

Without continued reform on the landside, Australia risks missing out on the full benefits of the expansion and competition in container stevedoring terminals.

1998 to 2013 – Benefits of reform

Australian stevedoring has performed strongly since the waterfront reforms began in 1998. Reforms designed to improve the productivity and reliability of stevedoring services while delivering them at lower cost and with a better managed workforce have been successful.

Long-term trends in Australian stevedoring demonstrate these positive developments:

More containers are handled

Container throughput has more than doubled from 2.9 million TEUs¹ in 1998–99 to 6.7 million TEUs in 2012–13.

Unit costs have fallen

In real terms, unit costs have decreased by 44 per cent, from \$171.47/TEU in 1998–99 to \$95.36/TEU in 2012–13, assisted by economies of scale.

The benefits of lower real costs have been shared with users through lower prices

In real terms, unit revenues (which the ACCC uses as a proxy for prices) have fallen by 37 per cent, from \$194.96/TEU in 1998–99 to \$122.56.

Productivity has increased

Capital productivity, measured in terms of the ‘average net crane rate’ has risen from 19.6 containers per hour in 1998–99 to 29.2 in 2012–13.

Labour productivity measured by the ‘average elapsed labour rate’² has almost doubled, from 22.4 to 41.1 containers per hour.

Substantial investment in capacity expansion has occurred

Since 1998–99, the value of the stevedores’ asset base (excluding the effect of changes in corporate ownership) has more than doubled in real terms.

Investment has been undertaken in new capital equipment (e.g. cranes and straddles), including the application of automated technology at some terminals.

Industry profitability has increased

The industry rate of return on average tangible³ assets has increased from 10.6 per cent in 1998–99 to 21.9 per cent in 2012–13.

2013 – Expansion and arrival of competition

The monitoring results for 2012–13 show a continuation of positive long-term trends in Australian stevedoring. Container volumes increased, growth in real prices and costs remained low and industry earnings were maintained. Ship servicing levels improved due to more stable workplace arrangements.

¹ Twenty-foot equivalent unit.

² This is a broad indicator of labour productivity and measures the number of containers that are exchanged in the period of time (expressed in hours) that labour is aboard the ship.

³ Tangible assets refer to the physical infrastructure (e.g. cranes, straddles etc.) used by the stevedores to provide container stevedoring services. The ACCC excludes the value of intangible assets (i.e. goodwill and berth licenses) from the industry’s asset base when assessing operating performance. The resulting measure should therefore not be interpreted as a return on the funds invested by shareholders in the respective stevedoring business.

The stand-out development during 2012–13 however was the large increase in investment in quayside stevedoring services.

Increased competition and demand growth have encouraged investment

The value of the industry's asset base grew by 34.8 per cent in 2012–13. This represents the largest average annual increase observed in over ten years.

The two major stevedores have installed new capital equipment at most terminals and are rolling out automated technology at Brisbane (in the case of DP World Australia) and at Sydney (in the case of Patrick).

These large-scale investments in existing terminals have coincided with Hutchison Ports Australia's (HPA's) entry into Australian stevedoring.

The timing of investments by the incumbents suggests that investment can be encouraged when increased competitive pressures are brought to bear in an industry. These investments are also driven by the need for terminals to have sufficient capacity to meet future demand.

Strong performance was accompanied by improved service levels

Labour productivity increased from 39.6 containers per hour in 2011–12 to 41.1 in 2012–13.

This increase was mostly a rebound from a deterioration that occurred in 2011–12 which coincided with a period of prolonged industrial disputation between the stevedores and their workforces. Both major stevedores reported a return to more stable workplace arrangements in 2012–13.

Capital productivity increased slightly from 29.1 containers per hour in 2011–12 to 29.2 in 2012–13.

Improvement in capital productivity appears to have eased over the last four years, with crane intensity rates remaining relatively stable.

Increased competition, and the introduction of new technology, such as automation, is expected to drive higher labour and capital intensity rates in Australian stevedoring over time.

Rates of return remain high

In 2012–13, total industry earnings increased by 0.8 per cent. This is a positive result for an industry which recorded modest growth in container volumes and incurred costs associated with developing new terminals.

With earnings being maintained and significant new capital investment, rates of return on average tangible assets decreased from 29.2 per cent in 2011–12 to 21.9 per cent in 2012–13.

Even after a major expansion in the industry's asset base, industry rates of return are significantly above the average of industrial related companies listed on the Australian Stock Exchange (ASX).

Increased competition from new entrants to the market will put pressure on any 'above-normal' rates of return that have existed in an industry which, in recent years, has not been subject to competition from new players.

Beyond 2013 – Emerging competition and reform priorities

Amidst the positive developments in Australian stevedoring, several challenges remain to establishing more effective, seamless container flows as projected freight volumes continue to grow.

Australian stevedoring is transitioning to a new structure

Port capacity expansion and new entry are expected to spur competition in stevedoring, with benefits to users of stevedoring services (shipping lines) and ultimately the Australian community.

In particular, competition is expected to drive investment in productivity and efficiency in stevedoring. This implies greater choice and bargaining power for shipping lines, allowing them to negotiate better stevedoring services and/or lower rates.

New entry is not without its challenges and it will inevitably take new operators time to embed their operations and attract customers. Benefits from port expansions are expected to be maximised once Melbourne's third terminal is online.

The ACCC has powers to ensure competition via new entry is not unfairly hindered

The ACCC has observed incumbent stevedores responding to new entry, primarily in terms of investing in quayside capacity. It is also anticipated that incumbents are offering shipping line customers more attractive prices, terms and conditions of service. This type of response is consistent with actions of firms in more competitive industries.

However, there may be circumstances where an incumbent operator is able to use its position of strength at one port to unfairly hinder a new entrant from establishing itself at that port and/or at other ports. This could occur, for example, if an incumbent operator was to use its market position at a single port - where competition is more limited - by offering rebates or discounts to shipping line customers conditional on the customer acquiring all (or substantially all) of their stevedoring services from that stevedore – whether at that port or at other ports where a new entrant is seeking to establish itself.

In certain cases, rebates could potentially foreclose sustainable competition if they have the effect of producing very low (i.e. below cost) effective prices for services at particular ports. This could occur when rebates are based on a customer's national volumes and therefore switching at one (or a few) port(s) reduces the rebate available to the customer at other ports.

Where there is evidence of such behaviour, the ACCC has powers under the *Competition and Consumer Act 2010* (CCA) to investigate anti-competitive conduct and if necessary take enforcement action through the courts.

Further reforms are needed

Expected growth in container volumes, capacity expansion and new terminals are positive developments in Australian stevedoring. However, these industry developments will most likely lead to more complex landside arrangements.

For some ports, more intensive use of trucks and trains will result in less congestion at and around port precincts. However, in most cases, further complementary measures in road and rail connections will be required to ensure the gains from quayside expansion are not lost as containers move outside and beyond the terminal gate.

Reform of heavy vehicle road provision and use is needed

Across Australia's five container ports, around 85 per cent of total container traffic was moved via road in 2012–13. Even with growing container volumes, road is expected to remain the dominant form of container transport in Australia over coming decades. It is therefore important that Australia's road network is well maintained and equipped to handle the future freight task.

Under the current road funding arrangements, there is a disconnect between heavy vehicle road charges and future road funding. The funds raised do not go to those responsible for maintaining or upgrading the roads. As a consequence, the right investments in key roads for freight transport may not be undertaken.

A better approach is needed—vehicle road charges should reflect the cost of road use and the revenue should flow back to improving road services. Fundamental structural reform is required to ensure the right roads are provided and charged for. Standard economic regulation can ensure this is done efficiently. For example, in industries such as rail and energy, user charges are set on the basis of future build and spend programs. These issues are being examined by the Heavy Vehicle Charging and Investment Reform (HVCI) group – an initiative of the Council of Australian Governments (COAG).

Improving signals for modal choice

While road is the dominant form of container transport, rail freight must also play its part in managing the freight task. The proportion of containers being moved on rail in and out of Australian container ports is low (around 15 per cent) and might need to increase if Australia is to better manage its growing freight task and alleviate traffic bottlenecks. Aspirational targets for greater rail use will not, however, by themselves, bring about a modal shift to rail freight.

Better signals for modal choice – whether to use road or rail freight – are needed. Current heavy vehicle road user charges are derived as averages and do not relate to specific roads (that is, the price is not location-specific). The more that road pricing can be developed to reflect location-specific costs, the better will be the signal for users as to whether to use road or rail infrastructure. Reforms to road user charging are important for driving more informed modal choice and for promoting better signals for use of and investment in rail freight infrastructure.

In addition, initiatives to better align the incentives of parties involved in container rail supply chains are required. Poor on-time train performance, lack of coordination of train paths and windows (exacerbated at some ports by competing passenger trains) and poor use of rolling stock are all disincentives to a greater take-up of rail services by importers and exporters. The ACCC is aware of recent initiatives at Port Botany where Sydney Ports has established a rail operations coordination centre to drive communications across key stakeholders involved in the port rail supply chain in order to improve rail service performance to and from Sydney's container terminals. The ACCC considers that this is a step in the right direction.

Using pricing to allocate scarce capacity

Despite most container terminals offering 24 hour/7 day operations, weekday truck access is still the most intensely used, with around 50 per cent of truck activity occurring on weekdays between 6am and 6pm. With most container ports located in high urban density areas, building more roads is not a feasible option to reduce congestion. Peak period pricing could be a more efficient way of shifting demand away from peak to off-peak times.

Using pricing signals to shift truck access patterns is yet to be tested in Australian stevedoring. Overseas experience suggests peak period pricing can assist in managing traffic congestion by reducing truck turnaround times and by spreading peak demand usage of port roads to off-peak times. In 2008, the NSW Independent Pricing and Regulatory Tribunal (IPART) recommended peak period pricing be introduced for trucks accessing Sydney's container terminals but this recommendation was not accepted by the NSW Government. It subsequently introduced a performance-based penalty system for stevedores and truck operators which has led to improved truck turnaround times, but access to container terminals during off-peak times

remains low. Peak pricing may need to be re-examined to effectively manage the projected increase in traffic volumes flowing from increased freight.

Report outline

More information about the ACCC's observations on container stevedoring performance and investment in capacity is included at section 1. Section 2 presents the main monitoring results for 2012–13 and section 3 sets out more detail. Selected industry and company data are presented in appendices A, B and C. Appendix D presents a brief description of the main characteristics of the industry. The ACCC's monitoring methodology and the approach to assessing industry profitability is discussed in appendix E. A copy of the ministerial direction is at appendix F. Appendix G reproduces the relevant provisions of the CCA.

1 Stevedoring — Reform drives economy-wide benefits

1.1 Overview

Australian container stevedoring performance has improved significantly since the 1998 waterfront reforms. The history of the ACCC's monitoring program shows that reform has been an important and effective impetus to increasing waterfront productivity and encouraging investment in a more efficient stevedoring service.

Since 1998, the industry has handled substantially more containers and has invested in infrastructure to provide a much more productive stevedoring service. Stevedores have benefited from increasing demand in terms of achieving lower real unit costs and higher profits, while users of stevedoring services (i.e. shipping lines) have also benefited in terms of falling real unit revenues (which imply lower prices) and better service levels.

The benefits associated with these reforms are significant but they may not be enough to deal with the industry's next set of emerging challenges. With demand for stevedoring services expected to double over the next twenty years, additional quayside and landside capacity will be needed to ensure Australian container ports and road and rail services can meet the challenges of a growing number of containers through our ports.

In 2013, quayside reform is being driven by investment in existing terminals and new terminal operators being added at several ports. New terminal operators should bring added benefits of more aggressive industry competition by delivering greater choice for shipping line customers and forcing all players to offer their most attractive terms and conditions to retain and secure new business. Increased competition, in this way, is expected to drive future improvements in productivity and deliver a better quayside service to customers.

Higher anticipated container volumes and more terminals are expected to add to the complexity of the landside container task. At some of Australia's largest ports, action will be needed to ensure that the benefits of quayside reform are not lost as containers move beyond the terminal gate.

More discussion on the ACCC's observations is presented below.

1.2 Industry performance – 1998 to 2013

1.2.1 1998 – a case for reform

Prior to 1998, Australian container stevedoring was characterised by generally poor performance. The Productivity Commission (PC) released a report in 1998 which found that container stevedoring charges were higher than in overseas ports, while ship loading and unloading was slower and services less reliable. The PC report also found that container stevedoring work practices were inflexible and prescriptive which constrained workplace performance. Delays at the terminal landside interface and the existence of truck queues at some ports were also highlighted in the PC report.⁴

In 1998, the then Government implemented a package of waterfront reforms that were agreed to by Australia's two major stevedores (known at the time as Patrick Stevedores and P&O Ports). These reforms were designed to improve productivity and reliability, lower costs and develop a better managed workplace. These waterfront reforms set out the seven benchmark objectives for the industry which are listed in Table 1. While the ACCC's monitoring program is

⁴ Productivity Commission, 1998, *International Benchmarking of the Australian Waterfront*, Research Report, Ausinfo, Canberra, April, p.xi.

not specifically designed to track industry progress in meeting each of these benchmarks, the ACCC has witnessed substantial progress. Table 1 lists the ACCC's observations about the extent to which each of these objectives has been achieved.

Table 1: Waterfront reform benchmark objectives established in 1998—ACCC observations on the progress made by the stevedoring industry in meeting these objectives

Benchmark objectives of the waterfront reform package (1998)	ACCC observations on the progress of the stevedoring industry in meeting benchmark objectives
1. An end to over-manning and restrictive work practices.	Enterprise agreements established since 1998 allow for greater flexibility in the deployment of labour. Over-manning reduced with a 50% reduction in the stevedoring full time workforce.
2. Higher productivity. A commitment from the major stevedores to achieve a benchmark crane rate of 25 container movements per hour as a national five port average.	Productivity data published by the Bureau of Infrastructure, Transport and Regional Economics (BITRE) indicates that the benchmark net crane rate (NCR) of 25 movements per hour was first met in the December quarter 2000. Since that time, the crane rate has remained largely stable and always above the benchmark. Whilst positive, this raises questions as to whether the existing benchmark remains appropriate for assessing future stevedoring performance. Recent NCR performance across the five major container ports over the last four years suggests that capital productivity gains may have eased.
3. Greater reliability through less industrial disputation and less interruption through elimination of restrictive work practices. The level of industrial action on the waterfront should be no worse, and preferably better, than the national average for all industries.	Industrial action is a feature of Australian stevedoring from time to time, normally around the time that existing workplace agreements expire and new ones are re-negotiated. Data on industrial action for the Australian waterfront is not published by the ABS. For the transport, postal and warehousing industries (the closest relevant industry category for this sector), the number of working days lost is stated on the basis of per 1 000 employees and was 2.6 days in the March quarter 2013. This is lower than all industry data, which, when stated on a comparable basis, shows that an average of 5.0 working days were lost per 1 000 employees in the March quarter 2013.
4. An improved safety performance. Injury and fatality levels must come back to the all industries average or better.	EBA agreements set minimum safety standards for terminal workers. Port managers monitor and report on compliance with safety regulations within the port precinct, with some port managers reporting on progress in meeting safety key performance indicator (KPI) measures in published annual statements.
5. Lower costs throughout the 'logistics chain of the waterfront gateway'.	The ACCC's monitoring program for 2012–13 shows that stevedores' real unit costs have decreased by 44 per cent since 1998–99.

Benchmark objectives of the waterfront reform package (1998)	ACCC observations on the progress of the stevedoring industry in meeting benchmark objectives
6. A drive to make full effective use of the technology available to increase productivity and improve ship turnaround times.	The ACCC has observed introduction of new technology at some terminals, including a trend by the existing stevedores towards increased automation of stevedoring terminals. BITRE Waterline data indicates that vessel waiting times across most of the monitored ports has generally fallen since 1998.
7. Improved training and promotion of apprenticeship programs. ⁵	Enterprise bargaining agreements published by Fair Work Australia include enhanced provisions for training and apprenticeship programs.

Source: compiled by the ACCC based on publicly available information.

1.2.2 1998 to 2013 — industry performance

The results of the ACCC's monitoring program reinforce the observations that Australian stevedoring performance has improved considerably since waterfront reform.

Compared to 1998–99, the ACCC has observed:

- **significantly higher volumes are processed across terminals**—since 1998–99, the number of TEUs has more than doubled; from 2.9 million TEUs in 1998–99 to 6.7 million TEUs in 2012–13.⁶
- **stevedoring productivity levels have increased**—the net crane rate for the five major ports (which is a commonly used measure of stevedoring productivity) was 19.6 containers per hour 1998–99; this has risen to 29.2 in 2012–13.⁷
- **real unit costs and unit revenues are lower**—improved capital and labour productivity levels and higher volumes have resulted in lower unit costs for the stevedores, and lower unit revenues to the benefit of users of stevedoring services. In real terms, unit costs are 44 per cent lower and unit revenues 37 per cent lower in 2012–13 than they were in 1998–99.
- **substantial investment in capacity expansion has occurred by the stevedores**—Since 1998–99, the value of the stevedores' asset base (excluding effects of changes in corporate ownership) is estimated to have more than doubled in real terms.
- **industry profitability has increased**—profitability levels (as measured by a rate of return on average tangible assets) are higher compared to levels reported by the stevedoring industry prior to waterfront reform. The industry rate of return on average tangible assets increased from 10.6 per cent in 1998–99 to 21.9 per cent in 2012–13.

⁵ Australia, Senate 1998, Debates, 22 June 1998 Hansard, pp.3617–20 (second reading speeches on the Stevedoring Levy (Collection) Bill 1998 and the Stevedoring Levy (Imposition) Bill 1998).

⁶ Bureau of Infrastructure, Transport and Regional Economics (BITRE), *Waterline*, forthcoming publication no. 53.

⁷ Ibid.

1.3 2013 — Expansion and arrival of competition

1.3.1 Major investments are occurring by incumbent stevedores

Demand for stevedoring services is expected to grow strongly over the next twenty years. The BITRE in 2010 forecast growth in container activity of around 5 per cent per annum between 2012–13 and 2029–30.⁸ This means that volumes across the five major container ports are predicted to more than double, and almost triple for some ports, by 2029–30.

With demand forecast to grow strongly, there has been considerable work done at some ports already to ensure that sufficient stevedoring capacity exists. Significant investment in existing terminals has occurred and new terminals are currently being added to meet the long-term capacity needs of these ports.

The ACCC's monitoring program shows significant investment has occurred in existing terminals. There have been a number of recent investment announcements by Patrick and DP World Australia, coinciding with new entry at east coast ports. These are outlined in the following summary box.

Major capital investment by stevedores in container terminal facilities, 2012–13

Asciano (Patrick)

Capital expenditure during 2012–13 significantly increased, reflecting expenditure on 8 new cranes and other stevedoring equipment at all four of Patrick's container terminals. Of the 8 cranes ordered, all have been delivered, with only one remaining to be commissioned.

In July 2012, Asciano also announced plans to automate its Port Botany terminal. Some initial expenditure has already taken place on the \$348m redevelopment of the Port Botany facility.

Patrick will continue to invest in straddles and pavement work, and continue to progress the Port Botany redevelopment plan which includes the expansion of the existing terminal and automation of its operations. Capital expenditure in FY 2014 is expected to be significant, with a large portion of the planned investment to be taken up with the Port Botany redevelopment.

Patrick is developing land adjacent to its Port Botany facility called 'the Knuckle' which will expand its quay line by 500m and footprint by 39 per cent including an extra berth at the Port Botany facility. A total of 44 new AutoStrads are currently being manufactured overseas and will be delivered to the Knuckle at Port Botany for testing once it is paved.

⁸ BITRE, 2010, *Australian Maritime Activity to 2029-30*, Canberra, p.38.

Major capital investment by stevedores in container terminal facilities, 2012–13, continued

DP World Australia

The major investment program being implemented by DP World Australia involved its mode change in Brisbane which has been previously reported to the ACCC and is expected to be completed in the first quarter of 2014.

A new crane was handed over in Melbourne in August 2013 and is now in operation. Significant civil works were also undertaken in Melbourne. Expanding the terminal into the adjacent intermodal site has been identified by DP World Australia as a priority.

DP World Australia continued to roll out its standard terminal operating system with Melbourne changing from an in-house system to the systems in the other terminals. Once the Brisbane mode change is completed all sites will be on a common system.

New cranes are being procured for both Sydney and Fremantle and are scheduled to be delivered in 2014.

Flinders Adelaide Container Terminal Pty Ltd (FACT)

The ACCC understands that there have not been significant levels of new capital investment undertaken at the Adelaide terminal in 2012–13. However, the following initiatives have occurred:

- Introduction of in-house vessel planning which was previously co-ordinated in Sydney (DP World);
- Recruitment of additional stevedoring labour to ensure that the Terminal has the capability of providing up to 12 gangs has also been undertaken over the period;
- Terminal Operating System (TOS upgrades—a number of software improvements were implemented involving controlled random stacking, improve allocation and a new vehicle booking system.

FACT is conducting feasibility analysis to assess the ability to expand the existing quay line of 649 metres by a further 240 metres which would increase berth operating capacity from 630,000 TEUs per annum to around 1.24 million TEUs per annum.

Planned investments for 2013-14 and beyond include the acquisition of two new post-panamax cranes and 5 additional new straddles as well as development of additional hardstand areas.

Hutchison Ports Australia

The major investments undertaken by HPA during 2012–13 have involved the development of new terminals. As expected for a new business, considerable investment has been made in both civil construction and plant and equipment. Substantial investments in civil works and engineering have occurred at both the Brisbane Container Terminals (BCT) and Sydney International Container Terminals (SICT). Building on reclaimed land has had costs attached, particularly at Port Botany where additional ground stabilisation works were necessary.

Quay crane and shuttle equipment has also been purchased for both sites. Investment in 2013–14 will consolidate the existing operations and further expand terminal capacity. By the end of 2013–14, BCT is expected to have capacity of 300,000 TEUs while SICT should reach capacity of 320,000 TEUs. By 2014–15, BCT is expected to reach capacity of around 600,000 TEUs and SICT capacity is planned to reach 1,000,000 TEUs in 2018–19.

Source: The information contained in this summary box is provided by the stevedores and reproduced by the ACCC.

Investment in new capital and technological innovation is a welcome and significant industry development observed through the ACCC's monitoring program. Since 1998–99 the value of the industry's stevedoring asset base has more than doubled in real terms. Much of this investment in more recent years has been directed to increased automation of stevedoring terminals. This is discussed in the next summary box.

Automation in Australian stevedoring

In recent years, the ACCC has observed a trend towards automating quayside stevedoring operations in Australia.

Two key types of automated equipment have been introduced by the stevedores – automated straddles (AutoStrads™) and automated stacking cranes.

AutoStrad technology

AutoStrad technology has been in operation in Australia since it was successfully introduced by Patrick at its Brisbane terminal in 2005.

According to Asciano (Patrick's parent company), AutoStrads operate unmanned, using radar and laser guidance technology to navigate around the yard, moving and stacking containers from the quay line into the holding yards, onto vehicles and back to the quay cranes with accuracy better than 2cm.

AutoStrad technology used at the Patrick Brisbane Container Terminal has reportedly delivered noteworthy and sustained improvements in Patrick's productivity, safety and services reliability as well as reduced costs. Patrick has stated that it has achieved a 90 per cent reduction in safety incidents at its Brisbane terminal since automation. Asciano has stated that the system provides high levels of flexibility and reliability to its stevedoring operation.

In July 2012, Asciano announced its plan to develop and automate its Port Botany terminal. The project includes the use of 44 AutoStrads and associated infrastructure and systems. The redevelopment and automation is expected to be delivered by mid 2014.

Photo of AutoStrad technology



Source: photo supplied by Patrick

Automation in Australian stevedoring (cont.)

Automatic stacking cranes

Automatic stacking cranes (ASCs) are the other main form of automated stevedoring equipment being rolled out in Australia. This has been the approach favoured by DP World Australia and HPA.

DP World Australia is in the process of rolling out 14 automated stacking cranes and automated terminal operating systems to its Brisbane terminal. Four automatic stacking cranes were delivered in June 2013, with two further shipments expected in July and October.

According to DP World Australia, the ASCs are fully automated rail mounted gantry cranes that perform container moves within each 300 metre long module. DP World states that the technology will improve the safety, reliability, efficiency as well as availability and add flexibility to the operation of picking and storing containers.

New entrant, HPA, has introduced automated stacking cranes into its new stevedoring operation at Brisbane, and will do so at its terminal in Sydney. This is the first time this technology will be introduced in Sydney. HPA states that use of the automated stacking cranes provides greater on-site container capacity to manage peak demand, improve security and employee safety.

Photo of ASC technology



Source: photo supplied by DP World Australia (Fisherman Islands, Port of Brisbane)



Source: photo supplied by Hutchison Ports Australia (Fisherman Islands, Port of Brisbane)

1.3.2 New entry is underway at east coast ports

Throughout the history of the ACCC's monitoring program, two firms—currently known as Patrick Terminals & Logistics and DP World Australia—have dominated the supply of container stevedoring services—and offered a national stevedoring service to users. Opportunities for new entry into stevedoring have not been available in recent years.

This year—2013—is a milestone as it marks the commencement of a new terminal operator in Brisbane which is designed to increase stevedoring capacity. A new stevedoring terminal is close to completion in Sydney, Australia's second largest port, and is expected to open later this year.

Brisbane

At the Port of Brisbane, Australia's third largest container port, HPA has commenced operations, after being awarded the rights to operate the third terminal in 2008 through a competitive tender process. HPA opened its terminal in January 2013 and serviced its first ship on 10 May 2013 after entering into agreements with Auspac consortium⁹ members Neptune Pacific Line and Pacific Forum Line.

HPA's Brisbane terminal has been commissioned in stages. Currently, only HPA's first berth is operational. The second berth is due to be commissioned in 2014. When complete, HPA's terminal will consist of two quay berths with a total quay length of 660 metres. It is expected to provide a 25 per cent increase in container handling capacity at the Port of Brisbane and will be capable of handling more than 800,000 TEUs¹⁰ a year.

Sydney

HPA was awarded the rights to operate Port Botany's third container terminal by the NSW Government in 2009 through a tender process. Operations at this terminal are scheduled to commence in late 2013.

When complete, the terminal will be able to handle more than one million TEUs per annum, with four shipping berths and a total quay length of 1,300 metres.

HPA's operations at both its Brisbane and Sydney terminals will be semi-automated, utilising automated stacking cranes and post-panamax quay cranes.

Melbourne

At the Port of Melbourne, Australia's largest container port, a tender process to appoint a third terminal operator is currently underway, as part of the port's Webb Dock redevelopment project.

The new container handling terminal at Webb Dock East will be capable of handling at least one million TEUs per annum. The Port of Melbourne Corporation (PoMC) has stated that the project will deliver the level of container capacity urgently needed.¹¹ The rights to develop and operate the new terminal have been offered to the market along with an ancillary empty container park.

⁹ The Auspac consortium is made up of Neptune Pacific Line, Pacific Forum Line, Pacific Direct Line, Sofrana and Swire with two 900 TEU capacity vessels. It runs services connecting the South Pacific islands and NZ with Australia.

¹⁰ TEUs are the standard unit of measurement for shipping containers. One TEU is equivalent to one 20-foot shipping container.

¹¹ Port of Melbourne Corporation 2012, *Project Details*, available at <<http://portcapacity.portofmelbourne.com/pages/project-details.asp>>, accessed 24 September 2013.

Following an expression of interest phase, the bidder shortlist was announced by the Victorian Minister for Ports on 1 May 2013.¹² The shortlist consists of:

- a consortium comprised of CMA CGM S.A. – ANL Container Line Pty Ltd and Macquarie Specialised Asset Management Limited;
- Australian International Container Terminals Ltd (AICTL) – (a consortium comprised of International Container Terminal Services Inc. and Anglo Ports Pty Ltd);
- Hutchison Port Holdings (part of Hutchison Whampoa Limited); and
- Qube Holdings Limited.

Shortlisted bidders were required to lodge their bid proposals to the PoMC in October 2013. A decision about which operator to appoint will be made in early 2014. The PoMC has predicted that the first container vessel will depart the new terminal in late 2016.¹³

1.3.3 Port capacity expansions and new entry bring benefits

Port capacity expansion along with new entry at Australia's three east coast ports is expected to result in several benefits. Not only will it allow these ports to meet significant growth in demand for container stevedoring forecast for future years, it should also promote greater competition and the benefits that flow from greater competition.

In terms of the dynamics between rival stevedores, both the entry of a third player and the presence of spare capacity in early years after expansion are expected to heighten stevedoring competition.

Greater competition can be expected to result in several benefits to users of stevedoring services, importers, exporters and the Australian community. Shipping lines can be expected to enjoy greater bargaining power in their negotiations with stevedores, possibly allowing them to secure more preferable service rates and quality. More intense competition should also drive investments in productivity and stevedoring process efficiency.

Capacity expansions will allow east coast ports to meet forecast volume growth

Capacity expansions planned and underway will be crucial for meeting predicted growth in demand from shipping lines for container stevedoring services. Higher expected freight volumes support economic growth and ultimately, higher living standards for Australians. It is important that Australia's stevedoring operations are equipped to handle this trade as efficiently as possible to facilitate trade growth.

Results of the ACCC's monitoring program show that container volume growth in 2012–13 was relatively modest at 1.4 per cent compared to an average annual increase of 7.4 per cent between 2001–02 and 2011–12. Despite this year's results, the long-term demand outlook for container stevedoring services in Australia remains positive, with container volumes projected to more than double between now and 2030 by the BITRE. In 2010, the BITRE forecast that demand for container stevedoring services would grow by around 5 per cent per annum between 2012–13 and 2029–30 across the five major container ports.¹⁴ While this represents a slowing of demand, as it compares with past growth in stevedoring demand of around 7.4 per cent in the ten years to 2011–12, long-term forecasts of container growth have typically been under-estimated which means the demand outlook is most likely positive.

¹² State Government of Victoria, media release by Premier of Victoria Denis Napthine: *Port of Melbourne set to expand capacity and competition*, 01 May 2013.

¹³ Port of Melbourne Corporation 2013, *Advisory Notice: Bidders Revealed for Australia's Premier Container Port Offering*, 1 May 2013.

¹⁴ BITRE, 2010, p.38.

The entry of a third player increases competition

The entry of a new operator at east coast ports is expected to heighten competition between container stevedores.

As the number of competitors in an industry increases, it becomes more difficult for one firm to gauge the likely responses of its competitors to its own actions. In these circumstances, competitors are more likely to offer shipping lines more competitive terms and conditions because they are less able to predict the reactions of their rivals.

Where competitive pressures are not strong, existing operators may not face strong incentives to invest in additional capacity and productivity improvements. This can be partly explained by the fact that stevedores are not able to significantly influence the demand for container stevedoring services. The demand for stevedoring services is a derived demand. It is determined by the volume of shipping transport, which in turn is strongly influenced by general economic activity and competition from other forms of transport such as air, road and rail. For the most part, Australia's largest container ports are not considered substitutable. This is because of the significant geographic distance between capital city ports, and the cost of land transport between locations.

The ACCC has, in past monitoring reports, noted that the long-standing stevedoring duopoly may have delayed investments, perhaps in an absence of stronger competition and/or a lack of investment obligations imposed by port managers.

It is therefore not unexpected that recent investment announcements by the incumbents have coincided with new entry as firms compete more aggressively and seek to protect market share in light of new stevedoring entry in Brisbane, Sydney and Melbourne.

Patrick's announcement of its plans to redevelop its Port Botany terminal (including installing automated straddles, new cranes and yard area extension) has coincided with impending new entry by HPA at that port. Patrick has stated that this investment project will enable it to boost its productivity, safety and customer service, as well as deliver greater operational efficiency and cost savings.¹⁵ Asciano has indicated that the automation component of the project is imperative to ensuring the company's long-term future and competitiveness in an environment where a third stevedore is imminent.¹⁶

Spare capacity provides an impetus for heightened competition

It is likely that in an efficiently configured stevedoring operation there will be some level of spare capacity, in terms of quay crane capacity and yard capacity, to meet the shipping industry's requirements.

The construction of new terminals is expected to have positive results in the stevedoring industry, not just because it will facilitate new entry, but also because of the spare capacity inevitably associated with a new terminal until demand grows over time. It is this spare capacity that is expected to spur competition amongst the stevedores by putting pressure on rates and service quality and increasing the bargaining power of shipping lines by giving them access to a greater supply of berthing windows.

The extent to which customers can shift their business to another operator and exert some bargaining power is an important indication of the level of competition in a market.

The ACCC notes that a higher level of spare capacity may not be in the financial interests of service suppliers. However, this is not necessarily a socially inefficient outcome given the high profits that have existed in stevedoring for some time. New operators have been willing to enter

¹⁵ Media release, Asciano, *Asciano to develop expanded world-class container terminal at Port Botany*, 18 July 2012.

¹⁶ Media release, Asciano, *Asciano signs contract for automated straddles for Port Botany*, 3 September 2012.

the market. This demonstrates that the costs of operating a terminal with spare capacity in the short term have not been sufficient to discourage a firm from entering.

Greater competition benefits users of stevedoring services, importers, exporters and the Australian community

Shipping lines are expected to benefit from more choice and greater bargaining power

Competition in a market generally requires customers to have the ability to switch service providers if they can achieve a better deal elsewhere. In the years prior to 2009-10, contract switching was generally rare in Australian stevedoring. In past monitoring reports, the ACCC noted the significance of the Oceania Vessel Sharing Agreement (OVSA) consortium switching its contract from Patrick to DP World Australia in late 2009. Interestingly, the substantial increase in throughput at DP World's Sydney terminal reportedly led to delays.¹⁷ This signals that the competitive pressures in the market had not been sufficient to encourage an existing stevedore to invest in capacity to the level sufficient to encourage them to actively compete for the other stevedore's business.

The appointment of a third stevedore signals that prevailing market forces (such as profits and increasing future demand) are considered to be sufficiently strong to attract new entry. When an industry is subject to competition, suppliers are less likely to have the ability to earn above-normal profits. This is because new operators will enter the market and drive down profit levels.

When stevedores are faced with credible threats that shipping lines will move their business elsewhere, they will likely face stronger incentives to offer their most competitive rates and terms and conditions. Threats are more credible where shipping lines have access to a number of suitable berthing windows. Berthing window availability will inevitably increase as a result of new quay-line and additional terminals.

The ACCC expects the bargaining power of shipping lines to increase with new terminals. Increased bargaining power should allow shipping lines to negotiate services that better suit their commercial needs including lower rates, higher productivity, more suitable berth windows and/or fewer delays.

In past monitoring reports, the ACCC noted that shipping lines may be more sensitive to the quality and availability of stevedoring services rather than its price. This is because a stevedore's ability to provide reliable, productive and flexible services within specified time windows is important for minimising costs for shipping lines.

In more recent times, however, shipping lines may have become more sensitive to stevedoring rates than previously given the current financial pressures that exist in international shipping. Where this is valid, it would have implications for new entrant(s) by influencing the type of service agreements that are ultimately negotiated between stevedores and lines. In particular, rates may face downward pressure with the entry of additional operators.

Shipping lines are also sensitive to stevedores' berthing window availability to facilitate preferred shipping schedules. With a greater supply of available berthing windows, shipping lines may be presented with opportunities to improve the speed and cost of the shipping services they operate. The ACCC understands that securing desirable aligning berthing windows at Australia's monitored container ports has been challenging for some lines in the past. If shipping lines are now able to secure windows that better align with their scheduled calls at other domestic and overseas ports, there may be scope to improve the efficiency of inter-port connections and therefore lower overall shipping costs.

¹⁷ Lloyd's Daily Commercial News (LLDCN), 'Delays at DP World's Botany terminal under fire', 10 November 2010.

Competition is expected to spur investments by stevedores to increase productivity and efficiency

Competition in Australian stevedoring is the most effective way of driving efficient investment in productivity improvements and service quality. In past monitoring reports, the ACCC has questioned whether the incumbent stevedores have faced sufficiently strong investment incentives. The monitoring program shows that investment in capacity has occurred, with the industry asset base increasing by 31 per cent in real terms between 2004–05 and 2012–13. At the same time stevedoring productivity levels have increased by 7 per cent. Yet, the ACCC is aware that there have been periods of quayside congestion at some ports during this period with opportunities for major shipping lines to switch to rival terminals being short-lived. There has also been a general level of dissatisfaction by some major shipping customers about the quality of Australian stevedoring.

The effects of likely improvements will flow to shipping line customers, importers and exporters and the wider Australian community

The benefits from greater competition will become more apparent over time as new terminal operators become established. The benefits expected from greater competition would be most immediately realised by shipping lines, with benefits from lower shipping costs ultimately flowing through to importers and exporters and the wider Australian community.

Benefits may not be immediately apparent

Regardless of timing differences for new terminals, it will inevitably take new entrants some time to construct their terminals, embed their operations and acquire shipping line customers. Until new entrants have established themselves in the market and increased their volumes, indicators used to measure productivity and financial performance may temporarily deteriorate. This is because substantial increases in capital costs will not initially be accompanied by commensurate increases in revenues, and as a result, average industry margins will temporarily fall. Similarly, rate of return profitability measures are expected to fall as the asset base grows in large increments while volumes increase more gradually.

In 2012–13, the ACCC's monitoring results show that stevedoring margins and industry returns on average tangible assets decreased from historically high levels, coinciding with new entry and the associated recognition of new stevedoring assets in the ACCC's monitoring data. This can be explained by the large and lumpy levels of capital expenditure initially required to establish a terminal, in conjunction with the necessary time taken to acquire volumes and recover costs. The ACCC has observed a general trend in Australian stevedoring operating performance over the last decade whereby industry returns have been higher than most comparable benchmarks included in the ACCC's monitoring program. New entry would be expected to result in 'above normal' returns falling to levels that would generally be expected to occur in industries characterised by stronger competition and several players.

1.3.4 Capacity expansion in Fremantle and Adelaide rely on investment in existing terminals for at least the next decade

For Australia's smaller monitored container ports, Fremantle and Adelaide, capacity expansion relies on investment in existing terminals, since additional terminals are not likely to be required for several, or in the case of Adelaide, many, years.

The ACCC is not aware of any significant capacity constraints to have emerged at these ports during 2012–13 and notes that investment in existing terminal capacity is scheduled to occur over the next few years.

The ACCC has received mixed views on adequacy of berthing capacity at the Port of Fremantle

In 2012–13, the ACCC has, through its monitoring program, received mixed views from stakeholders on whether stevedores have invested sufficiently at the Port of Fremantle to

provide an adequate supply of suitable berthing windows. While some stakeholders were of the view that no noticeable capacity constraints had emerged at the stevedores' terminals, others indicated there was an inadequate supply of available berthing windows, and that further investments in berthing window capacity is needed.

In Fremantle, the two existing terminals are expected to be close to reaching capacity sometime around 2025 when new 'overflow'¹⁸ container facilities would be needed. In June 2012, the Western Australian Government announced plans to investigate the need for a second container port at Cockburn Sound, 10kms south of Fremantle. Study findings were due to the State Government in May 2013.¹⁹ To date, the results of this study are not publicly known.

Any shortage of berthing capacity in Fremantle may not be a product of the container handling potential of the terminals; but, rather, a lack of incentives on the stevedores to invest in improving the capacity and productivity of existing facilities and compete aggressively for market share.

Inadequate service at one terminal can affect shipping lines' costs and stevedoring operations at other Australian ports

Where a ship calls on multiple ports in Australia, a delay caused by poor service at only one port could have wider implications for Australian stevedoring networks and the shipping industry. Potential poor service or inadequate investment in one port could also undermine investments in capacity and productivity recently made at east coast ports.

For example, if a ship is delayed in Fremantle, it may then need to fast-steam in an attempt to get back on schedule. Fast steaming requires higher fuel costs for shipping lines, some of which are ultimately borne by Australian importers and exporters. That ship may then still arrive late at its next port of call and subsequently have to wait for a berthing window to be serviced. Not only would this result in higher demurrage costs for that shipping line, but it may place pressure on that next port of call despite any investments that have been made at that port to enhance capacity and productivity.

No quayside capacity constraints at the Port of Adelaide

The ACCC is not aware of any major capacity constraints present or expected to emerge at the Port of Adelaide in the short to medium term.

The ACCC understands that the existing berth length associated with the Adelaide Container Terminal (ACT) is 649 metres and it has been assessed to have an operating capacity of approximately 630,000 TEUs per annum with current shipside performance outcomes. The arrival of two ship to shore cranes to be commissioned in late 2014 is expected by ACT to increase potential berth operating capacity to above 900,000 TEUs per annum. A proposed further berth extension of 240m would increase berth capacity to approximately 1.24 million TEUs per annum.²⁰

1.4 Beyond 2013 – quayside challenges – an industry in transition

Industry transition from two well-established players to three competitors (or possibly more, depending on the outcome in Melbourne) at major ports is likely to last several years as new terminals come online and new operators establish themselves.

¹⁸ The ACCC understands from past reports published by Fremantle Ports that future investment in new terminal facilities in Fremantle will handle the container volume overflow from Fremantle's Inner Harbour.

¹⁹ Statement Government of Western Australia (Department of Transport) 2012, *Ports Handbook: Western Australia 2012*, p.25.

²⁰ This information was supplied by Adelaide Container Terminal Pty Ltd to the ACCC as part of the monitoring program.

At those ports where new entry is occurring or expected to occur in the next few years, some features of the Australian stevedoring industry may prove challenging to new entrants as they seek to establish themselves.

Some of these features are likely to reflect the nature of stevedoring itself, such as the volume driven nature of the business and the likely presence of economies of scale. Others will relate to the strategies or business models of incumbent operators.

The extent to which industry characteristics might impede competition or frustrate new entry, particularly in the short term as new terminal operators seek to establish themselves, is not clear. It may be just a matter of time before any obstacles are overcome by new terminal operators, and the Australian stevedoring industry sees the benefits of increased competition at Australia's major east coast ports.

1.4.1 Structural challenges of new entry

Economies of scale

It is generally accepted that there are economies of scale in container stevedoring. Container stevedoring is a capital intensive industry, requiring large and lumpy investment in equipment like cranes, straddles and technology. Efficiencies available to a larger operator, for example in terms of management and coordination of workforce and equipment, also may not be available to stevedores operating on a smaller scale. A higher output allows a firm to achieve economies by spreading these costs over a greater number of units.

Recent and forthcoming new entry indicates that economies of scale are not considered sufficiently strong to discourage a third stevedoring operation at the larger ports, particularly those that have already established sufficient scale at container ports overseas.

Until a new entrant is able to acquire sufficient market share, it may have trouble profitably offering attractive services and competitive rates to shipping line customers. Because of the large and lumpy capital requirements to set up a stevedoring operation, a new operator may be required to sustain losses in early periods until they can attract market share and earn revenues at levels needed to recover initial capital costs. That said, profits in Australian stevedoring have been well above benchmark levels for some time, which indicates there may be scope to absorb capital costs and still earn sustainable profits.

Differences in timing of new terminals

In Australia, no single port acts as a primary destination for ships, as is often the case in other countries. Ships often call on several Australian ports separated by long distances. Shipping lines therefore need to establish a sequential network of berthing windows across several ports so that they are able to maintain their shipping schedules.

The ACCC has previously recognised the likelihood that the provision of a national stevedoring service offers a number of advantages. For example, it may reduce transaction costs by allowing a shipping line to deal with a single stevedore. Also, a national provider may offer shipping lines incentives in terms of volume discounts that would not be available from single-port operators. A national stevedore may also be able to coordinate its terminals so that a vessel that arrives at a port behind schedule can be brought back on schedule by the time it leaves Australia.

The timing of when new terminals will likely commence operation means that there will be several years in which new terminals will be operating in Brisbane and Sydney, but not yet in Melbourne. The potential benefits from new entry and capacity expansion are expected to be maximised once Melbourne's third terminal is operational.

Differences in the timing of new entry across ports reflect individual ports' requirements for additional capacity. However, it also means there will be a period in which HPA, the third

operator in Brisbane and Sydney, will be competing against the incumbent stevedores without a third terminal operator at the Port of Melbourne with whom it can form an alliance.

The existence of national contracting in container stevedoring is unlikely to be a barrier sufficient, by itself, to preclude a single-port operator from competing aggressively for business. A single-port operator, for instance, may be more inclined to offer its customers a price discount or service guarantee so that it can attract new business away from an established operator with a national presence.

Any potential disadvantage from not being able to offer a service in Melbourne could be expected to diminish once a third terminal becomes operational at that port in late 2016. At that point, the third operator in Brisbane and Sydney may have the ability to form an alliance with an alternative third terminal operator at the Port of Melbourne, or a presence at the port itself.

1.4.2 Behavioural challenges in Australian stevedoring

Existing arrangements between shipping lines and incumbent stevedores

Existing contracts and relationships between shipping lines and incumbent stevedores may limit the amount of customers a new entrant will be able to attract initially, upon entering at a port. The degree to which this may limit competition in the short term will depend on the remaining terms of contracts in place.

In the lead up to new entry, incumbents would be expected to attempt to negotiate more attractive prices, terms and conditions of service with shipping lines to protect market share.

The ACCC notes that Patrick has secured five-year contracts with two of the largest container lines in the world – Maersk and Mediterranean Shipping Company (MSC) – over the last two years, with MSC provided with a right of early termination at the end of year three.

Existing contracts between shipping lines and incumbent stevedores will naturally become less of a barrier as contracts approach expiration and third terminal operators gradually acquire market share.

Shipping lines may be initially cautious in considering a new entrant's services, as they have existing relationships and arrangements with the incumbent stevedores. Over time, shipping lines can be expected to move over to third operators if they offer competitive services.

HPA is expected to acquire greater bargaining power once it has both its Brisbane and Port Botany terminals operational, and it acquires experience processing ships in the Australian market.

Rebates and discounts based on national volumes

While the ACCC is not privy to the terms, conditions and rates negotiated between shipping lines and stevedores, it is possible that contracts between these parties contain rebates or discounts where shipping lines use a particular stevedore in a number of ports and provide a high proportion of their volume to a particular stevedore nationally.

How rebates and discounts based on national volumes actually play out in practice in Australian stevedoring is not clear at least from information available through the ACCC's monitoring program. However, it is conceivable that any rebates or discounts offered by the incumbents to shipping lines based on national volumes may make it more difficult for new entrants to profitably compete, if a new operator is unable to offer shipping lines services at as many locations. It may mean the price charged by a new operator must be prohibitively low to entice shipping lines since they need to also compensate them for the loss of a rebate/discount offered by a rival operator at other ports. A theoretical example of this is presented in the following box.

Effective prices with retroactive rebates: a theoretical example²¹

Assume the incumbent offers the following retroactive discount to its customers.			
No. of Units	Rebate level	Price per unit	Effective price per unit (inc rebate)
Less than 25	No rebate	\$10	\$10
25-49	20% of all units	\$10	\$8
50-75	30% of all units	\$10	\$7
75+	50% of all units	\$10	\$5

Under the rebate scheme, if a customer acquires 80 units from the incumbent it qualifies for a 50% discount off all units. The cost for 80 units will be **\$400** (\$5 x 80 units).

If the customer wants to acquire 10 units from a competitor, it would acquire less from the incumbent (70 units) and therefore its rebate level will decrease (from 50% to 30%). The effect would be to **increase** the cost to the customer of acquiring the remaining units from the incumbent to **\$490** (\$7 x 70 units).

In order to attract the customer, the new entrant would have to make sure that the customer is no worse off from splitting its volumes. Therefore the entrant must compensate the customer for the loss of rebates. In this example, the entrant would have to **pay the customer \$90** (or charge an effective price of \$-9 per unit) in order to attract 10 units from the customer.

A number of market characteristics are likely to influence the degree to which rebates or discounts offered by established operators could limit the competitiveness and/or profitability of a new entrant. These include:

- *The extent to which economies of scale exist in Australian stevedoring* — Should economies exist, a stevedore that offers rebates and discounts may face a lower average cost by attracting and supplying greater volumes. This would allow that operator to charge a more competitive price (inclusive of a rebate/discount) than an operator offering no rebate and supplying fewer volumes. If rebates have the effect of foreclosing a sufficient fraction of the customer base at a port such that a new operator cannot achieve minimum efficient scale, this may impede their ability to compete with established stevedores.
- *The level of profits that exist in Australian stevedoring* — The degree to which stevedoring prices are set above marginal costs may influence whether a new entrant is able to profitably compete against prices with discounts or rebates attached. The ACCC's monitoring program has consistently shown that the industry rate of return in Australian stevedoring remains well above benchmarks. The implication of this may be there is greater scope for a new entrant to offer market rates even if they are inclusive of discounts/rebates.
- *The characteristics of demand for Australian stevedoring* — Price is not the only component of a stevedoring service that suppliers compete on. Shipping lines also consider the productivity and reliability of service, and berthing window availability. Depending on how sensitive shipping line customers are to the quality of a stevedoring service, they may be willing to pay a premium (a price higher than one with a rebate or discount attached) to a new operator able to offer a superior service in terms of productivity, flexibility, reliability or windows. This is partly because shipping lines are

²¹ Retroactive rebates are those for which when the customer reaches a certain volume or spend threshold, the customer receives a discount on *all units* purchased (not just those above the threshold).

sensitive to the costs of waiting idly at a port, fast steaming or adjusting port calls to meet berthing window availability.

Subcontracting arrangements between stevedores

Sometimes a stevedoring terminal can become constrained in its ability to provide services to scheduled shipping line customers, for reasons including equipment malfunctions, technology glitches, adverse weather or industrial unrest.

Having been a two player industry for some time, the incumbent operators may have established ways to cope with irregular terminal constraints such as subcontracting arrangements where they agree to service each other's customers while a rival's terminal is unable to service ships.

For a new entrant seeking to secure volumes, these existing arrangements could affect new entry. The extent to which they are harmful could ultimately depend on the ability of a new entrant to secure sub-contracting work itself from either or both of the incumbents.

1.4.3 The ACCC has powers to ensure competition via new entry is not unfairly hindered

The ACCC has observed some responses by incumbent stevedores to new entry, primarily in terms of investment in quayside capacity, and offering shipping line customers more attractive prices, terms and conditions of service. This type of response is consistent with actions of firms in more competitive industries.

However, the CCA contains provisions that prohibit anti-competitive behaviour, including behaviour by an incumbent that substantially lessens competition, or is designed to prevent entry by a potential competitor or substantially damage an existing competitor.

There may be circumstances where an incumbent operator is able to use its position of strength at one port to unfairly hinder a new entrant from establishing itself at that port and/or at other ports. This could occur, for example, if an incumbent operator was to seek to leverage its market position from a port(s)—where competition is more limited—by offering rebates or discounts to shipping line customers conditional on the customer acquiring all (or substantially all) of their stevedoring services from that stevedore. Such conduct could be in contravention of section 47 of the CCA. In addition, if there was evidence of such incumbent operators offering rebates or discounts for the purpose of preventing entry into the market or to substantially damage a competitor, the conduct may constitute a misuse of market power contrary to section 46 of the CCA.

More generally, while rebates and discounts can reduce prices and are therefore generally beneficial for consumers and efficiency, depending on how they are structured, rebates may be used by a dominant firm to foreclose potential rivals.

Rebates are unlikely to impede effective competition if competitors are able to compete on equal terms for each customer's entire demand. However, if competitors are not able to service the entire demand of each customer—for example, because of capacity constraints or because customers feel they must stock at least some of the incumbent's product—then rebates can increase the barriers to customers switching for the 'contestable' fraction of demand.

In certain cases, rebates could potentially foreclose competition if they have the effect of producing very low (i.e. below cost) effective prices for services at particular ports. This could occur when rebates are based on a customer's national volumes and therefore switching at one (or a few) port(s) reduces the rebate available to the customer at other ports.

Incumbent stevedore operators should ensure that they do not use their positions of strength in the Australian market to unfairly hinder new terminal operators from establishing themselves.

Where there is evidence of anti-competitive behaviour, the ACCC has powers under the CCA to investigate and if necessary take enforcement action through the courts.

1.5 Beyond 2013 – landside challenges – reform priorities

Expected growth in container volumes, capacity expansion and new terminals are positive developments in Australian stevedoring. However, these developments will most likely lead to more complex landside arrangements. In addition to the overall challenge of servicing more containers, the landside task is likely to become more complex where a truck or a train is involved in multiple container movements across more than one terminal in a single journey.

As container volumes grow and new container terminals are developed, better use of existing road and rail infrastructure and investment in new infrastructure connecting to Australia's major container ports will be needed to avoid transport bottlenecks and maximise freight efficiency.

In some cases, more intensive use of trucks and trains will assist to address congestion at and around port precincts. More than likely, however, further complementary measures in road and rail connections will be required to ensure the gains from quayside expansion are not lost as containers move outside and beyond the terminal gate.

This section outlines the nature of the landside task in stevedoring, the importance of road and rail services in moving containers and identifies key areas of reform that the ACCC considers are necessary to establishing more effective connections to Australia's growing ports.

1.5.1 Defining the landside task

Inside the terminal gate

Once a stevedore has unloaded a container from a ship, the process of transporting the containers to its final destination begins. This can be described as the 'landside task' and the exact process by which it occurs varies by port and transport mode in use.

The first stage of the landside task is undertaken by the stevedores and freight operators and involves lifting containers on and off trucks and trains within the port terminals. The stevedores have a significant influence on this stage of the landside task, because they are responsible for processing containers and managing their yard space.

Outside the terminal gate within the port precinct

The second stage of the landside task occurs outside the stevedores' terminal gates but still within the port boundaries. Port managers and freight operators are involved in this part of the process, and have a responsibility to ensure this part of the chain operates seamlessly and safely.

The stevedores can have a significant influence on this part of the landside task through the way they manage their bookings and allocate resources to servicing trucks and trains. However, they are only partly responsible for this stage of the task. The way in which train operators and truck operators load their vehicles and time their runs can also have a significant influence.

Beyond the port precinct

The third stage of the landside task occurs outside the port precinct and involves transportation of containers (most commonly via road networks, but also via rail) by freight operators.

This stage can also involve calls to empty container parks or intermodal terminals, or it can be a direct distribution from the port precinct to a container's final destination. A number of parties

– such as port managers, stevedores, rail and freight operators and governments – play a part in promoting efficient landside arrangements beyond the port precinct.

The importance of road and rail in the landside container task

Road is heavily relied on at all of Australia's container ports. Across Australia's five container ports, around 85 per cent of total container traffic was moved via road in 2012–13. Table 1.1 identifies the modal split between road and rail at the monitored ports.

Table 1.1: Road/rail split of container traffic to/from monitored ports, 2012–13

Port	Road	Rail ²²
Melbourne	95.2 %	4.8%
Sydney	80.8%	19.2%
Brisbane	93.7%	6.3%
Fremantle	84.0%	16.0%
Adelaide	na	na

Source: BITRE, *Waterline*, forthcoming publication No. 53. The ACCC has calculated the road/rail splits for each port based on the number of containers transported via truck and containers via rail as listed in table 1.1 of *Waterline*.

Even with growing container volumes, road is expected to remain the dominant form of container transport over coming decades. Despite this however, rail transport must also play a part in managing traffic congestion on road networks, particularly for ports located in highly urbanised areas.

At Australia's largest ports, there seems to be a growing focus on improving rail freight efficiency and usage, through initiatives by governments and private operators. Given the economies of scale associated with rail freight transport, rail may become increasingly competitive with road transport as container volumes grow. Plans to develop intermodal terminals in NSW and Victoria are significant steps and should promote rail usage in future years.

Sydney

Additional rail capacity is being added to the Port Botany supply chain through joint state and commonwealth initiatives, such as the Southern Sydney Freight Line (SSFL) which opened in January 2013. The SSFL is a dedicated freight only line between Macarthur and Chullora. Initially 16 freight trains were expected to use the SSFL each day, with capacity for up to 48 train paths per day. With the NSW Government previously forecasting that container volumes would be expected to grow from 2 million TEUs in 2011 to 13.6 million by 2040, strategies to improve the efficiency of existing road and rail networks as well as provide additional rail capacity are an increasing priority. The ACCC understands that Sydney Ports is developing a rail charter governing all of the above and below rail operators servicing Port Botany. This will set minimum performance requirements. Further, in July 2012, Sydney Ports established a

²² Truck and rail statistics published by the BITRE are provided to them by the stevedores. These statistics should be read with caution and used as an indicative guide only. This is because the number of railed containers is incomplete because the stevedores do not collect all rail data. Stevedoring companies count containers moved by rail only when they are hauled to an 'on dock' rail siding. They do not count containers moved by rail to a 'near dock' rail siding. "On dock" refers to situations where the rail siding is on dock in a port terminal. Near dock rail sidings are in the neighbourhood of the port terminal but not on the dock. The rail sidings in Brisbane, Fremantle, Adelaide and DP World, Melbourne are near dock. The only complete rail figures are for the Sydney, Port Botany Container Terminal which has an on-dock rail siding. The ACCC understands that the BITRE is working with industry to improve the coverage of land-side statistics more broadly.

24/7 manned rail operations coordination centre (ROCC). The ROCC is intended to drive greater efficiency across the port rail supply chain.

A large inland port terminal at Moorebank in south-west Sydney is also under construction which is expected to encourage a take up of rail shuttle services. The Federal Government has established a Government Business Enterprise to oversee management and tender out for design and construction. As container volumes increase in Sydney, it is understood that inland ports such as Moorebank will be increasingly relied upon for container processing and distribution.

Melbourne

In Melbourne, there appears to be an appetite amongst private business to invest in rail freight to and from the Port of Melbourne. Qube and Salta Properties have established an alliance to invest in rail intermodal terminals and run freight trains connecting the port with greater Melbourne. Nevertheless the current low rail modal share in Melbourne is unlikely to increase in the short term as road remains the favoured container transport mode due to likely cost, availability and time advantages over rail.

The Victorian Government believes there is potential for rail to play a role in the distribution of containers in the metropolitan area. It has stated it will work in partnership with the private sector to encourage the start-up of rail shuttle operations at the Port of Melbourne as part of the Metropolitan Intermodal System (MIS) project.²³

While rail connections do exist at Swanson Dock, they are not heavily used. This may reflect natural market characteristics that discourage rail usage. The ACCC understands a significant volume of containers moving to and from the Port of Melbourne travel only short distances from the port, which may mean rail is not as cost effective as road. A container logistics study carried out by the Victorian Government in 2011 found that 90 per cent of imported containers taken by road travelled less than 50 kilometres to their initial destination. In contrast, 89 per cent of imported containers taken by rail or a combination of road and rail travelled more than 600 kilometres from the port. The average cost of using rail is understood to diminish as the distance of travel increases.

There may also be artificial barriers contributing to low rail usage. Conditions of access to container terminals and the nature of incentives on the stevedores to invest in rail connections to their stevedoring terminals are likely to be important factors in determining rail usage and efficiency. It is possible the incumbent stevedores do not have the incentive to service trains from their on-dock rail terminals at the Port of Melbourne, preferring to instead encourage truck transportation.

DP World Australia submitted to the ACCC that it continues to engage with industry to attempt to move more containers in Sydney and Melbourne by rail, where it has access to dedicated rail sidings.

Brisbane

The Federal Government identified a dedicated rail freight line to the Port of Brisbane among its list of national priorities in the National Land Freight Strategy released in September 2012. In addition, the Queensland Transport and Logistics Freight Council has identified a need for a new freight rail line at the Port of Brisbane (but mostly to rail coal from Western Queensland to the port).

1.5.2 Developments in improving landside container flows during 2013

The ACCC's monitoring program has observed a number of developments in landside arrangements at container terminals during 2012–13.

²³ The Victorian State Government, August 2013, *Victoria – The Freight State; The Victorian Freight and Logistics Plan*, p.26.

Port freight plans have been announced

Infrastructure Australia

Through its National Infrastructure Plan, Infrastructure Australia has identified a need for a more integrated approach to rail and road freight infrastructure planning and investment in Australia.²⁴ According to Infrastructure Australia, a connected and integrated national freight network will enhance the speed and safety with which goods are transported to and from overseas markets. This will lower the cost of transport, and improve Australia's competitiveness.²⁵

New South Wales

The NSW Government released its 20-year State Infrastructure Strategy in December 2012, after receiving advice on the long-term infrastructure needs of the state from Infrastructure NSW. The NSW Government has prioritised improving freight rail to reduce pressure on the road network. It outlines a target of doubling rail's mode share of container movements through Port Botany, which will require work on existing infrastructure and the development of intermodal facilities in NSW.²⁶

Queensland

The Queensland Government released its draft Moving Freight plan in June 2013 which is designed to ensure the state is equipped to handle forecast growth in freight volumes. The draft plan outlines a number of priorities for enhancing Queensland's freight network. These include expanding the use of rail freight; increasing road freight network access; and greater freight infrastructure investment.²⁷

Victoria

The Victorian Department of Infrastructure and Transport released its Freight and Logistics plan in August 2013. The plan sets out the state's long-term strategy to improve freight efficiency and meet container volume growth over the coming decades. It outlines the Victorian Government's plans to develop and invest in new intermodal facilities (in particular, the Western Interstate Freight Terminal); the Port of Hastings; and road and rail freight networks.

The Federal and Victorian state governments had previously announced in January 2013 that a combined total of \$5 million will be spent on a feasibility study into the idea of a Western Interstate Freight Terminal to ease truck congestion at the Port of Melbourne.

The stevedores have invested

As part of the ACCC's monitoring program the stevedores reported a number of investments in landside facilities during 2012-13.

- **DP World Australia** – reported that it has made upgrades to its vehicle booking system (VBS) process and has sought permission to install radio-frequency identification (RFID) readers at its Melbourne terminal to allow it to issue trucking companies with RFID tags to alert it to the arrival of trucks at the port.
- *Melbourne* – in addition, it has upgraded its neighbouring intermodal facility in Melbourne with the intention of ultimately joining the two sites. At present DP World is seeking permission to close Coode Road and as a first step install a dedicated straddle access track between the sites. This should allow DP World to better manage its landside interface in Melbourne and improve service to truck operators in Melbourne.

²⁴ Infrastructure Australia 2013, *National Infrastructure Plan*.

²⁵ Infrastructure Australia 2013, *National Infrastructure Plan*, p.44.

²⁶ NSW Government 2012, *NSW Government State Infrastructure Strategy*, p.12.

²⁷ Queensland Government (Department of Transport and Main Roads) 2013, *DRAFT Moving Freight, Transport and Main Roads*, June 2013.

- **Sydney** – DP World submitted that it installed weigh-in-motion equipment in 2012-13 to alert truck drivers as to the gross weights of their trucks before exiting the site. DP World intends to roll this equipment out at all sites over time. This equipment should support compliance with truck mass regulations.
- **Patrick** – submitted that it has commenced implementing an optimal camera recognition system across all its terminals that will streamline entry conditions with the aim to reduce truck turnaround times.

1.5.3 The ACCC has observed a number of different models to address landside problems at container ports

More broadly, the ACCC has observed a number of different approaches to improving the efficiency of landside container logistics, particularly where road congestion has been an issue. These have been aimed at improving communication amongst landside operators; reducing congestion; and increasing rail freight usage. Some of these have involved government regulation while other more cooperative approaches have been driven by industry. As landside supply chain issues differ by port, so do these approaches.

Arranging more effective use of road and rail systems will often require governments and industry to collaborate. Some initiatives to improve landside container flows may also require cooperation amongst potential competitors or participants along a supply chain. Such cooperation may raise concerns under Part IV of the CCA, especially where they involve arrangements between competitors on prices, or impose restrictions on participants' freedoms on whom they deal with. In some cases, potential competition concerns can be avoided through the design of the proposed arrangement.

Where industry-based arrangements cannot be structured in a way that alleviates competition concerns, but the public benefits are considered to outweigh any detriment to competition, the ACCC can facilitate these solutions through the processes of authorisation or notification.

Authorisation and notification are processes set out under Part VII of the CCA, whereby the ACCC can grant immunity for potential breaches of the CCA if it is satisfied the conduct delivers a net benefit to society. That is, the public benefits of the arrangement are deemed to outweigh any potential detriments from reduced competition. In considering applications for authorisation and notifications, the ACCC takes a supply chain-wide view to assist industry to achieve more efficient outcomes.

Recent examples in Melbourne and Fremantle, where parties involved in container supply chains have had cooperative arrangements facilitated by the ACCC, demonstrate that potential issues under the CCA are not necessarily a barrier to industry collaboration.

Where industry-initiated solutions are being considered, parties should first seek legal advice. The ACCC invites early discussion with parties (before an arrangement is implemented) where authorisation may be required.

Industry has been proactive in establishing arrangements to improve landside efficiency

The ACCC has observed a number of approaches by industry to improve landside connections to container terminals, particularly where road congestion has been an issue.

Melbourne

In Melbourne, in September 2011, a number of empty container park (ECP) operators in the Port of Melbourne precinct chose to implement arrangements whereby truck operators would be required to use an online booking system provided by Containerchain Pty Ltd in order to notify of their intention to collect or deposit containers at an ECP.

Prior to implementing these arrangements, the ECP operators lodged notifications under Part VII of the CCA with the ACCC to obtain legal protection from the third line forcing prohibitions of Part IV. These notifications were subsequently allowed to stand by the ACCC.

These arrangements are reportedly showing positive results, including reduced truck queuing times and road congestion outside the parks, as well as better overall management of ECP facilities.

On 12 October 2012, Qube notified the ACCC of its intention to require transport operators to use this online booking when transporting containers to/from ECPs operated by Qube nation-wide. The ACCC allowed these notifications to stand.

Sydney

In Sydney, the Port Botany Rail Team (PBRT) established by the NSW Government and chaired by Sydney Ports Corporation (SPC) has been developing a set of business rules to improve rail access connecting to Port Botany. These set out proposed rules and conditions for access governing freight trains transporting containers to and from Port Botany.

Fremantle

In Fremantle, the process of authorisation was used in 2010 after Patrick and DP World Australia applied for interim authorisation to develop a system to facilitate and promote dual runs (where a truck both delivers and collects a container in the same trip). The intention was that such a system to encourage dual runs would reduce road congestion to the port. The ACCC understands that this system has not been advanced to the implementation stage.²⁸

Fremantle Ports announced in May 2013 new initiatives to alleviate traffic congestion in and around the port precinct.

Regulatory approaches have also been adopted in Sydney and Melbourne

At Australia's larger monitored ports, regulatory approaches to promoting seamless supply chains have been used.

In Sydney, the Port Botany Landside Improvement Strategy (PBLIS) has been in place since it was implemented by the NSW Government in February 2011. PBLIS is a legislative initiative that establishes a performance management system whereby penalties are imposed on the stevedores and truck operators for poor performance (for example, not meeting booking times). PBLIS has led to some positive results; for example, improved truck turnaround times and reduced truck congestion along port roads.

In Melbourne, legislation to promote integrated transport planning and development has been enacted. The *Transport Integration Act 2010* (TIA) sets out a framework that transport bodies must comply with when exercising powers or performing functions under transport legislation. The TIA requires that all decisions affecting the Victorian transport system be made within the same integrated decision-making framework and support the same objectives.

1.5.4 In addition to actions taken at the ports, more fundamental reform is required

The ACCC's monitoring program, over several years now, has observed several approaches to align the incentives of the stevedores, road and rail operators, users and other stakeholders to invest in more effective landside connections to container terminals.

Some initiatives already undertaken are significant and are showing positive results in terms of improved truck performance in and around container terminals (particularly at Port Botany)

²⁸ The authorisation remains in place until 2 December 2015. The ACCC's final determination is available on its public register at www.accc.gov.au; Authorisation Nos A91238, A91239 and A91240.

while others (particularly in relation to improving rail use at most ports generally) are still in their infancy.

With the freight task projected to double between now and 2030, productivity growth can be expected to slow significantly without further reforms. Improved road and rail freight productivity reduces the cost of moving freight leading to lower costs all the way through supply chains. This is critical to ensuring Australia can meet its growing freight task and, at the same time, manage other key objectives such as managing traffic congestion in our cities.

The ACCC has identified three key areas of reform critical to improving road and rail connections to Australian container ports:

Reform 1: Reform heavy vehicle road provision and use

Currently, the revenues governments receive from heavy vehicle charges are not linked to heavy vehicle use. Roads are funded through taxation revenue at a local, state and national level through the annual government budgetary process. This results in a fundamental disconnect between heavy vehicle road charges and future road funding and, as a consequence, the right investments in key roads for freight transport are not undertaken.

A better approach is needed—vehicle road charges should reflect the cost of road use and the revenue should flow back to improving road services. Fundamental structural reform is required to ensure the right roads are provided and charged for. Road user charges revenues need to be separated from taxation revenue and distributed to road providers to spend on the road network.

Standard economic regulation can ensure this is done efficiently. For example, in industries such as rail and energy, user charges are set on the basis of future build and spend programs. These issues are being examined by the Heavy Vehicle Charging and Investment Reform (HVCI) group – an initiative of COAG.

Elements of Heavy Vehicle and Investment Reform²⁹

The HVCI project stems back to 2006 when the Productivity Commission (PC) conducted an inquiry into road and rail freight infrastructure pricing. The inquiry found current heavy vehicle road pricing and regulatory arrangements do not support the efficient use and provision of the road network therefore increasing costs to industry and government.

As a result of the PC inquiry, COAG agreed a long-term road reform plan for road infrastructure pricing and investment decision-making. In April 2007, COAG set up the COAG Road Reform Plan (CRRP) to conduct a review of current heavy vehicle user charges and to investigate the viability of alternative charging models for heavy vehicles.

CRRP then conducted a Feasibility Study into other charging and funding arrangements for heavy vehicles. The study found that reform was feasible if charges were directly linked to road funding and investment changes. It recommended that new direct charging arrangements be developed for COAG consideration by December 2012.

In July 2012, COAG noted the recommendations of the Feasibility Study, giving the reform project the go-ahead. The CRRP was then renamed the HVCI Reform to reflect its broadened scope. The HVCI Project Board was also restructured to oversee the development of a framework to support the package of charging, funding and investment reforms where benefits outweigh costs.

The HVCI project is currently developing new reform options that are designed to better direct funding to where there is greatest potential to improve heavy vehicle productivity. The project continues the work of the COAG Road Reform Plan and is focused on 6 key areas:

²⁹ More information on the HVCI Reform Project team is available at www.roadreform.gov.au.

- *planning and expenditure*—to enable road providers to respond to the needs of the market and make targeted investments.
- *funding*—to link revenue from heavy vehicle charges to road spending.
- *access*—to provide sufficient access to the road network to support the growing freight task and encourage productivity growth.
- *regulatory oversight*—to provide assurance that road expenditure is efficient and charges are fair.
- *charging*—a charging framework that reflects the costs of road use and facilitates greater access.
- *implementation*—a transition approach to move to a new regime.

Any decision by COAG to proceed to an implementation phase will follow consideration of a Regulatory Impact Statement (RIS) expected late 2013.³⁰

Reform 2: Improve signals for modal choice

While road is the dominant form of container transport, rail freight must also play its part in managing the freight task. The proportion of containers being moved on rail in and out of Australian container port is very low (around 15 per cent) and might need to increase if Australia is to better manage its growing freight task and alleviate traffic bottlenecks.

Better signals for modal choice – whether to use road or rail freight – are needed. Current heavy vehicle road user charges are derived as averages and do not relate to specific roads (that is, the price is not location-specific). The more that road pricing can be developed to reflect location-specific costs, the better will be the signal for users as to whether to use road or rail infrastructure. Reforms to road user charging are important for driving more informed modal choice and for promoting better signals for use of and investment in rail freight infrastructure.

However, for rail to play a greater role, initiatives to better align the incentives of parties involved in container rail supply chains are also required. Poor on-time train performance, lack of coordination of train paths and windows (exacerbated at some ports by competing passenger trains) and poor use of rolling stock are all disincentives to a greater take-up of rail services by importers and exporters.

The recent initiatives at Port Botany where Sydney Ports has established a rail operations coordination centre to drive communications across key stakeholders involved in the port rail supply chain in order to improve rail service performance to and from Sydney's container terminals is a positive development.

Improving rail modal share is also important for maximising investments in related rail infrastructure, such as intermodal terminals. Intermodal terminals can be important gateways to Australia's largest container ports and can help facilitate off-peak operations and move containers in bulk runs.

Reform 3: Use prices to allocate scarce capacity

Most of Australia's larger container terminals offer 24 hour/7day operations. However, weekday truck access is still the most intensely used, with around 50 per cent of truck activity occurring on weekdays between 6am and 6pm.³¹ With most container ports located in high urban density

³⁰ Information has been sourced from the HVCI website at www.roadreform.gov.au.

³¹ See Section 2.4.3 for more information on landside access patterns to container terminals.

areas, building more roads is not a feasible option to reduce congestion. A more efficient way of shifting demand away from peak to off peak times is needed.

Using pricing signals to shift truck access patterns could be an effective option, although it is yet to be tested in Australian stevedoring.

IPART inquiry into the landside interface at Port Botany (2007-08)

In 2008, the NSW Independent Pricing and Regulatory Tribunal (IPART) recommended peak period pricing be introduced for trucks accessing Sydney's container terminals. IPART recommended an a two-tier system for vehicle slots – one 'firm' and one 'interruptible'. Firm slots would guarantee a time of entry and exit from the terminal. The 'interruptible' ones would be allocated on an online first-come-first served basis. The stevedores would control the auctioning off of the slots, which would be subject to an independent audit.

This proposed system was not supported by the NSW Government. It subsequently introduced a performance based penalty system for stevedores and truck operators. This system led to improved average truck turnaround times (which have fallen from around 45.5 minutes in the December quarter 2010 to 35.6 minutes in the June quarter 2013).³² However, other issues remain, with access to container terminals during off-peak times remaining low (as with all container ports, not just in Sydney).

BITRE study of landside efficiency

Overseas experience suggests peak period pricing can assist in managing congestion by reducing truck turnaround times and by spreading peak demand usage of port roads to non-peak times.

The BITRE in 2011 published a paper examining overseas approaches to managing scarce capacity in landside stevedoring services.³³ The paper notes that where overseas jurisdictions have introduced peak period pricing for truck slots at stevedoring terminals, this has led to rapid improvements in landside efficiency in terms of quicker turnaround times and an easing of congestion given truck operators have an incentive to access terminals during off-peak times.

The BITRE paper focused on examining best practice in landside port efficiency in four areas: the management of peak demand for container pick up and drop off; truck turnaround times; congestion at the port and in the port's hinterland; and rail's mode share in container haulage.

In the first three areas, improvements overseas were achieved using well-designed pricing instruments. The most notable overseas example was the success at Los Angeles/Long Beach container ports in California where 50 per cent of the daily demand for truck trips was shifted to the off peak window by use of pricing. In Australia, the demand for truck trips during the day time peak ranges from 55 per cent to under 70 per cent of total daily demand. Therefore, there seems to be room for improvement at Australian ports.³⁴

Peak pricing may need to be re-examined to effectively manage the projected increase in traffic volumes flowing from the increasing freight task.

1.6 Conclusions

Australian container stevedoring performance has improved significantly since the waterfront reforms of 1998: Key highlights include:

- Much higher volumes are now processed through Australian container terminals.

³² BITRE, *Waterline*, forthcoming publication no 53.

³³ BITRE, 'An investigation of best practice land-side efficiency at Australian container ports', September 2011.

³⁴ BITRE, 2011, p.11.

- Real unit revenues have fallen, benefiting users of stevedoring services.
- Real unit costs have also fallen, benefiting the stevedores.
- Strong volume growth combined with lower unit costs has resulted in higher industry profits. At the same time, the stevedores have invested significantly in terminals.
- Stevedoring productivity has improved as a result of reforms to workplace arrangements and significant investment in capital equipment.

Further reform is currently underway through investment in capacity expansion and new entry. New terminal operators should deliver increased opportunities for more aggressive competition which should deliver benefits in terms of an improved quayside stevedoring services both now and into the future.

Challenges associated with a growing container task and more stevedoring terminals require commensurate investment in road and rail connections to ensure the benefits of quayside port expansions are not undermined and that transport bottlenecks around our largest cities do not emerge.

Fundamental reform is required in three key areas of landside container flows:

- **Reform of heavy vehicle road provision and use** to ensure the right investments in key roads for freight transports are undertaken.
- **Improving signals for modal choice** to maximise investment in existing road and rail infrastructure and to ensure rail plays its part in a growing freight task.
- **Using prices to allocate scarce capacity** so that demand for access to container terminals is shifted away from peak to off peak times.

2 Main monitoring results

2.1 Introduction

The ACCC monitors prices, costs and profits of the container stevedores at the ports of Adelaide, Brisbane, Burnie, Fremantle, Melbourne and Sydney. This role is conducted pursuant to a direction under Part VIIA of the CCA.

The monitoring program provides information to the government and community about developments in Australian container stevedoring, particular the operating performance of, and degree of competition at the monitored ports. The monitoring program also highlights issues affecting road and rail connections to container terminals. ACCC monitoring commenced in 1999. This is the ACCC's 15th container stevedoring monitoring report.

This section presents the main results of the ACCC's container stevedoring monitoring program for 2012–13.

2.2 Supply of container stevedoring services

Providing container stevedoring services involves lifting container boxes onto and off ships. As part of the movement of boxes between ships and the wharf, stevedoring companies provide other services such as storage, maintenance and repositioning of containers. Stevedores also provide services that facilitate the movement of containers from the terminals to road and rail transport links.

2.2.1 The stevedores

For most ports in the ACCC's monitoring program, stevedoring services during 2012–13 were supplied by a duopoly consisting of Patrick and DP World Australia. The exceptions to this are (1) Adelaide, where services were supplied by a sole stevedore—Flinders Adelaide Container Terminal Pty Ltd and (2) Brisbane, where services are supplied by three stevedores following commencement of operations by Hutchison Ports Australia earlier in 2013.

For the two dominant stevedores, market shares vary over time, but generally seem to fluctuate between 45 and 55 per cent at each port. No significant market share appears to have transferred between Patrick and DP World during 2012–13, implying no significant switching of large customers between rival terminals.

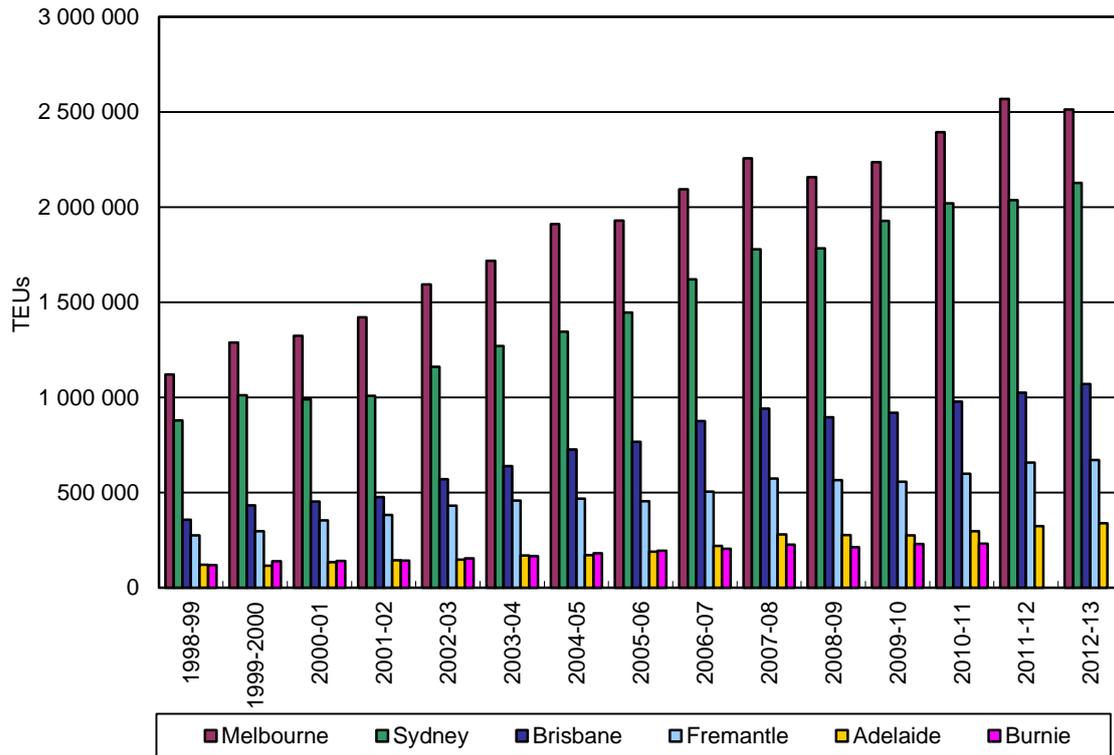
2.2.2 Size and characteristics of the market

A key characteristic of Australia's shipping trade is that there tends not to be a single point of call for ships servicing Australia. Rather, vessels operate across several ports that are separated by long distances. Shipping lines therefore need to establish a service network and secure a sequence of suitable berthing windows to service several ports within their shipping schedule.³⁵

According to the data collected by the BITRE, total throughput at Australian container ports in 2012–13 was 6.7 million 20-foot equivalent units (TEUS), which is low by international standards.

³⁵ Further information on the characteristics of the Australian stevedoring industry is presented in appendix D of this report.

Figure 2.1: Container throughput trends at designated ports, 1990-91 to 2012-13



Source: BITRE, *Waterline*, forthcoming publication no 53, TasPorts (Port of Burnie)

Note: data in *Waterline* includes international and domestic cargo.

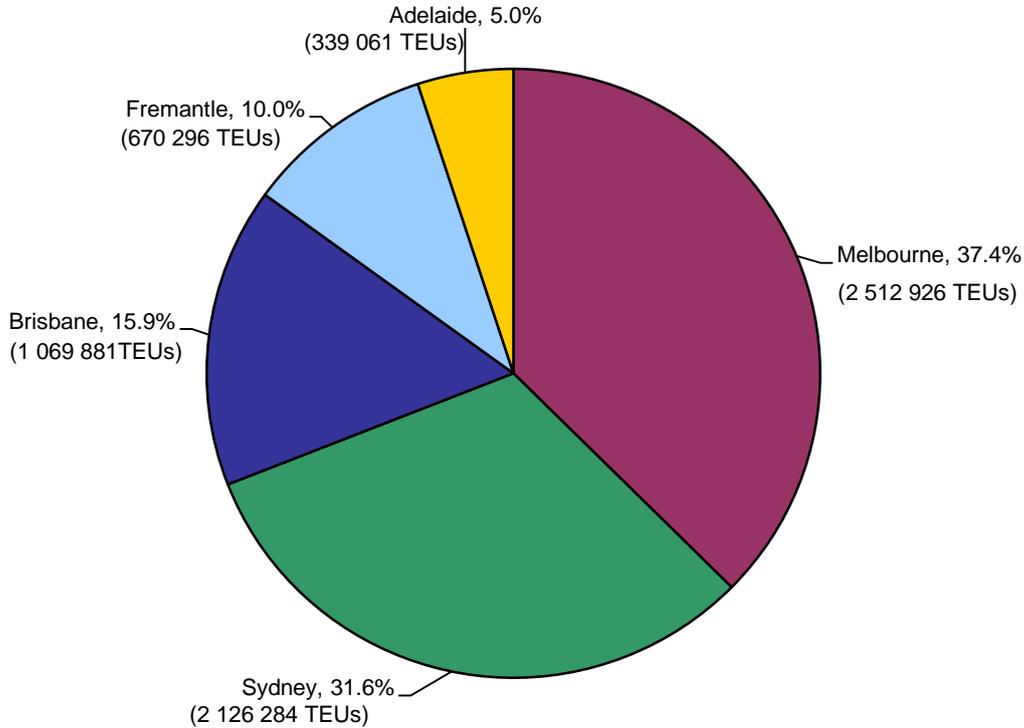
The major points to note about trends in throughput in figure 2.1 include:

- Volumes at Australia's major container ports have grown since 1998–99. Strong growth is particularly apparent between 1998–99 and 2007–08, where the average annual growth across this period was 10.7 per cent.
- During 2008–09, throughput levels across several ports fluctuated, which was mostly due to the effects, and subsequent recovery from, the Global Financial Crisis (GFC).
- In 2010–11 and 2011–12, volumes increased across all ports.
- In 2012–13, national throughput increased by 1.6 per cent on 2011–12 levels. Throughput increased at all ports except Melbourne. In Melbourne, throughput decreased by 2.2 per cent following strong growth in of 7.3 per cent in 2011–12. For the remaining ports, the largest increase occurred in Adelaide (+4.7 per cent) followed by Sydney (+4.4 per cent) and Brisbane (+4.4 per cent). Volumes increased in Fremantle by 2.0 per cent in 2012–13.
- The Port of Melbourne continues to be Australia's largest national container port, processing 37.4 per cent of total TEUs handled at the nation's major container ports.
- Relative to 1998–99, Sydney's share of national TEUs increased from 30.6 per cent to 31.6 per cent in 2012–13 (its highest share in the history of the monitoring program). Brisbane's share of national TEUs increased from 12.5 per cent to 15.9 per cent.

Melbourne's share of national TEUs decreased from 39.0 per cent in 1998–99 to 37.4 per cent in 2012–13.³⁶

Figure 2.2 shows details of volumes handled at Australia's major ports in 2012–13.

Figure 2.2: Container throughput volumes and shares by ports, 2012-13



Source: BITRE, *Waterline*, forthcoming publication no 53, TasPorts (Port of Burnie)

Note: data in *Waterline* includes international and domestic cargo.

Melbourne processed 2.5 million TEUs in the year to June 2013. By comparison, volumes in Singapore, the world's largest container port, were 31.3 million TEUs in 2012.³⁷ Australia's second largest port is Sydney, which processed 2.1 million TEUs in 2012–13. Among the ports monitored in 2012–13, volumes were shared among the ports of Brisbane (1 070 000 TEUs), Fremantle (670 000 TEUs) and Adelaide (339 000 TEUs).

2.3 Average revenue, costs and margins for all services

The ACCC uses total revenue to create an indicator of average prices charged across a stevedore's entire business. The ACCC does not collect information on actual prices charged for stevedoring services, because they are subject to private negotiation between shipping lines and stevedores. Unit total revenue is total revenue expressed per TEU. Generally, reductions in unit revenue imply lower prices for services.

³⁶ Share of national volumes in 1998–99 are based on national volumes for the six container ports (i.e. including the Port of Burnie) included in the ACCC's monitoring program. In 2012–13, national volumes recorded no throughput of international containers for Burnie because Patrick closed its operations at Burnie in May 2011.

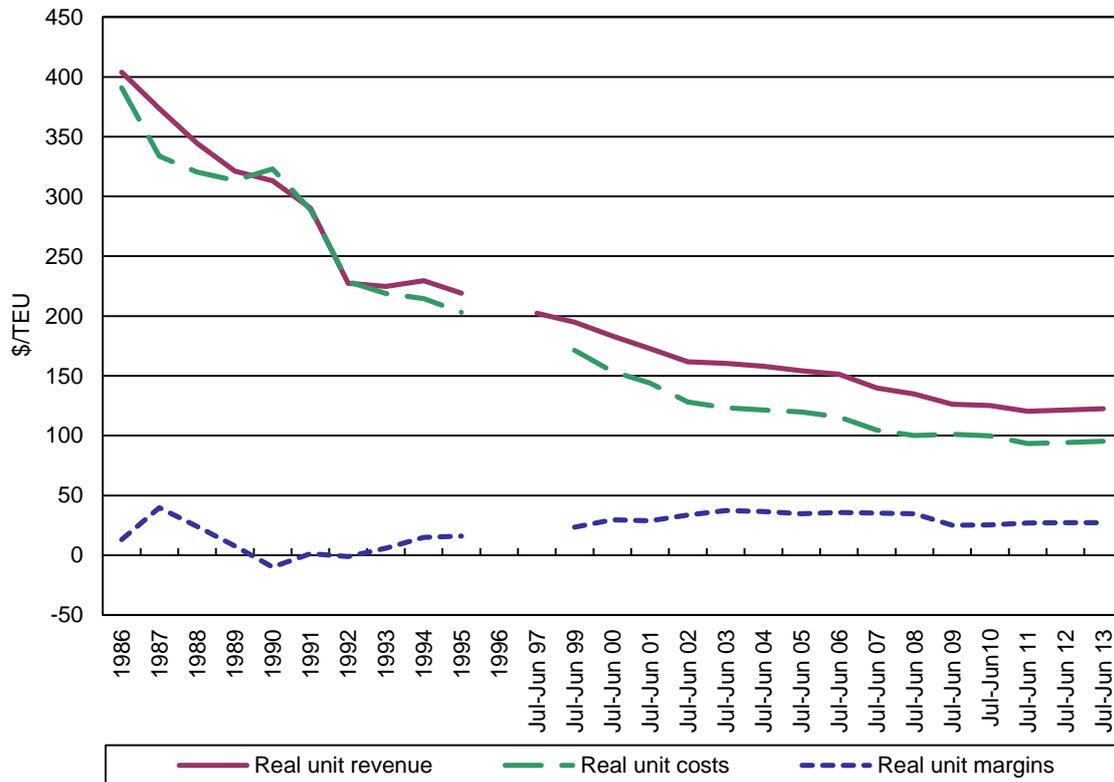
³⁷ Latest available data are for 2012. See Maritime and Port Authority of Singapore at www.mpa.gov.sg.

Data on unit total revenue and cost provide a measure for revenue and costs associated with stevedoring services as well as other ancillary services.

2.3.1 Real revenues, costs and margins

Figure 2.3 shows the significant overall downward trend in both unit costs and unit revenues in real terms³⁸ between 1985 and 2012–13.³⁹

Figure 2.3: Real unit revenues and costs, 1985 to 2013



Sources: Monitoring of stevedoring costs and charges and terminal handling charges 1995, ACCC 1996. Figures for January to June 1997 are an estimate derived by BITRE, Waterline. The stevedoring companies, as part of the monitoring program, supplied figures for 1998–2012. Australian Bureau of Statistics (ABS), G04, Other Price Indicators, Chain Price Index, Gross Domestic Product (available at www.abs.gov.au). Base year for ACCC deflator series = 2000-01.

Figure 2.3 shows that:

- Since 1998–99 (when ACCC monitoring commenced), real unit costs have fallen by around 44.4 per cent; from \$171.47 (expressed in 2000–01 dollar terms) to \$95.36 in 2012–13.
- Real unit revenues have also fallen; this time by 37.1 per cent, from \$194.96 to \$122.56.

³⁸ In this chapter, where the ACCC refers to 'real terms', the data is in 2000–01 dollar levels.

³⁹ It should be noted that the gross domestic deflator (GDP) deflator, not the consumer price index (CPI), has been used to express nominal unit data in real terms. The GDP deflator has increased at a faster rate than the CPI in the last ten years. Since June 2002, the CPI rose 34.2 per cent, while the GDP deflator rose 41.5 per cent. See, ABS Cat. No 6401.0., Consumer Price Index, and GO4, Other Price Indicators, Chain Price Index, Gross Domestic Product.

- Real unit margins have increased as a result of the falls in unit costs being proportionately greater than falls in real unit revenues. Real unit margins were 15.8 per cent higher in 2012–13 than they were in 1998–99.

The overall downward trend in real unit costs most likely represents a combination of factors, including the benefits of reform as well as the presence of economies of scale in Australian stevedoring. Lower real unit revenues (which the ACCC uses as a proxy for prices) suggests the benefits of lower real unit costs have been shared with users of stevedoring services.

A more detailed discussion of the ACCC's monitoring results for industry revenues and costs is presented in chapter 3. Additional detailed data on real unit revenues, costs and margins is presented in table B2 in appendix B.

2.4 Productivity

Stevedoring productivity measures are an important indicator of industry performance and the quality of service provided to customers. Indicators of stevedoring productivity reflect a mix of labour and capital inputs and therefore tend to reflect the quality of investment decisions being made by the stevedores to offer a more efficient service.

The section below examines two key aspects of stevedoring performance (1) productivity of quayside services in servicing ships and (2) productivity of landside stevedoring services in servicing trucks.

2.4.1 Productivity trends in quayside stevedoring services

The ACCC's analysis of quayside productivity is based on data collected by the BITRE. The BITRE reports on trends in capital and labour productivity in container stevedoring operations in the five mainland ports. Quayside productivity is measured in terms of average crane, average ship and average elapsed labour rates. These measures are defined in simple terms below:

- *Net crane rate* – this reflects the intensity to which quay cranes are worked and measures the number of containers/TEUs exchanged per crane hour while that quay crane is operating.⁴⁰
- *Ship rate* – this reflects the productivity of labour and capital while the ship is being worked by measuring the number of containers/TEUs exchanged based on crane intensity as well as the time taken by labour to work a ship.⁴¹
- *Elapsed labour rate* – this is a broad indicator of labour productivity and measures the number of containers/TEUs exchanged for the period of time that labour is aboard the ship.⁴²

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

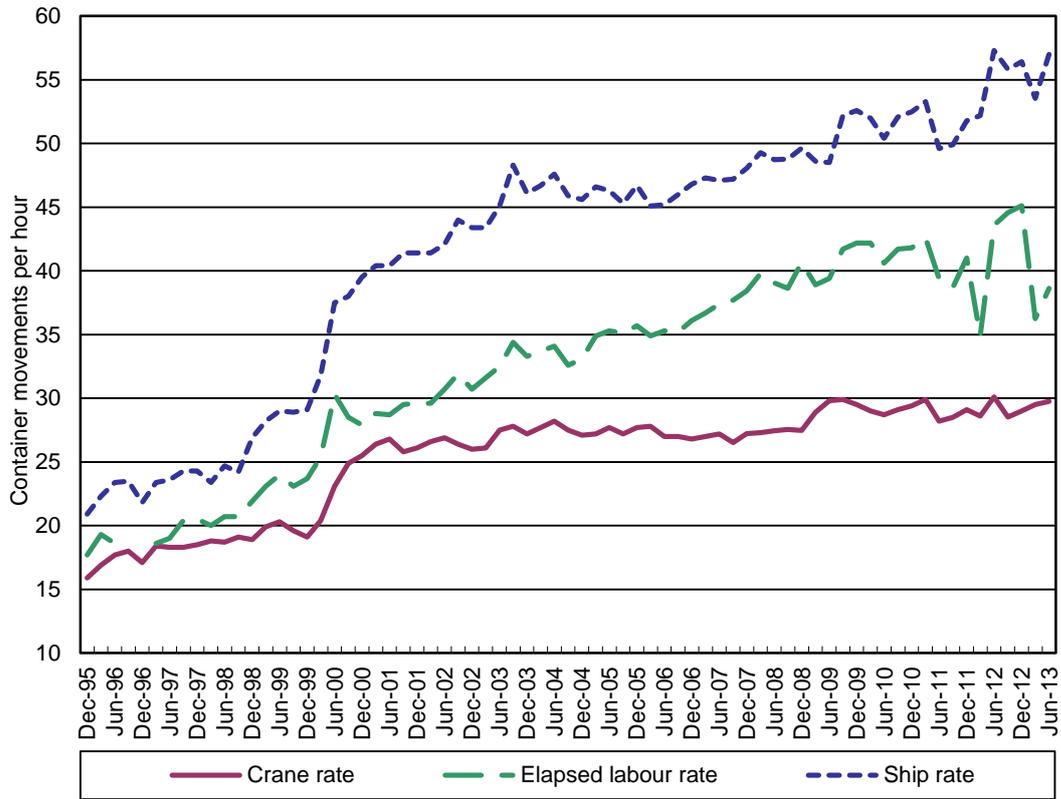
Productivity trends are shown in figures 2.5 and 2.6.

⁴⁰ The crane rate is measured by dividing total number of containers/TEUs handled by the elapsed crane time. The elapsed crane time is the total allocated crane hours less operational and non-operational delays. See BITRE, *Waterline*, forthcoming issue no. 53.

⁴¹ The ship rate is calculated by multiplying the 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, forthcoming issue no. 53.

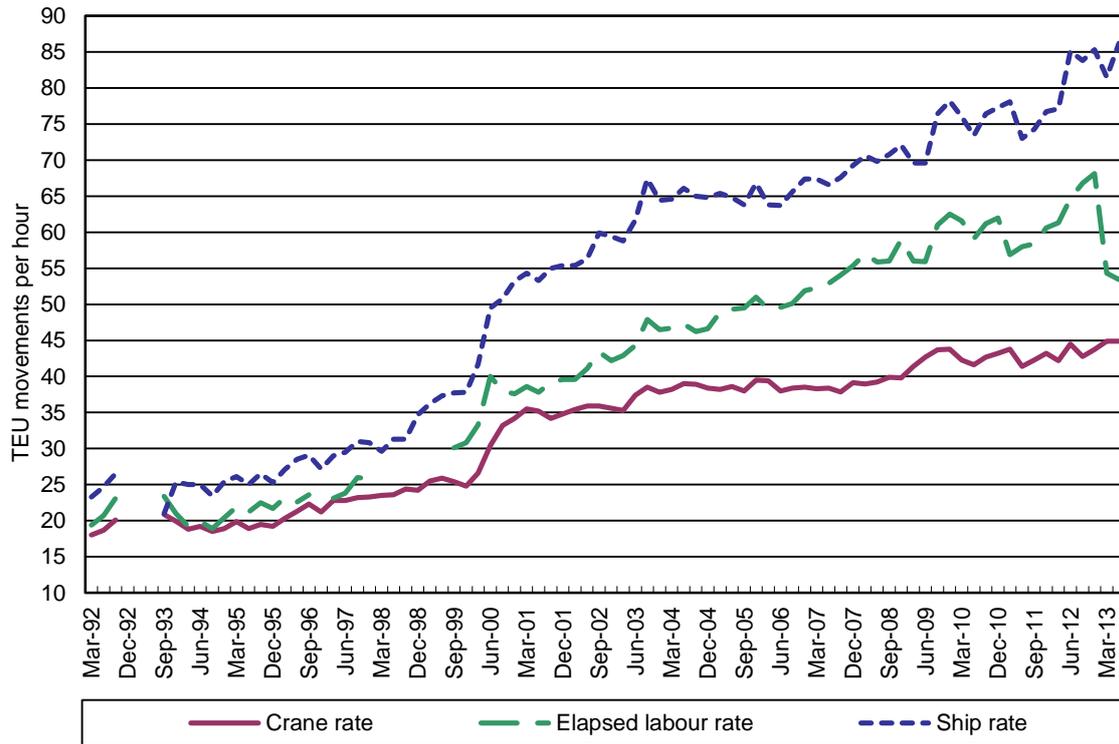
⁴² The elapsed labour rate is the elapsed time between labour first boarding the ship and labour last leaving the ship, less non-operational delays. See BITRE, *Waterline*, forthcoming issue no. 53.

Figure 2.4: Productivity indicators (containers/hour), five-port average, 1995 to 2013



Source: BITRE, *Waterline*, forthcoming publication no. 53, 'Averages for ports of Brisbane, Sydney, Melbourne, Adelaide and Fremantle'.

Figure 2.5: Productivity indicators (TEUs/hour), five-port average, 1992 to 2013



Source: BITRE, *Waterline*, forthcoming publication no. 53, 'Averages for ports of Brisbane, Sydney, Melbourne, Adelaide and Fremantle'.

Movements in key productivity indicators in 2012-13⁴³ were mixed, showing that:

- The five-port **average net crane rate**, measured in terms of containers per hour and TEUs per hour were, for the most part, unchanged. The five-port average crane rate decreased marginally from 30.1 containers per hour in the June quarter 2012 to 29.8 containers per hour in the June quarter 2013. On a per TEU basis, the five-port average crane rate increased slightly from 44.5 in the June quarter 2012 to 44.9 in the June quarter 2013.
- The five-port **average ship rate** describes the productivity per ship while the ship is worked. The average ship rate, measured in terms of containers per hour, decreased marginally from 57.3 in the June quarter 2012 to 57.0 in the June quarter 2013. On a per TEU basis, the ship rate increased from 85.1 in the June quarter 2012 to 86.2 in the June quarter 2013.
- The five-port **average elapsed labour rate** (which describes the productivity per ship, based on the time labour is aboard the ship), measured on the basis of containers per hour, decreased between the June quarter 2012 and the June quarter 2013 from 43.6 to 38.6. The five-port average elapsed labour rate measured in terms of TEUs per hour also decreased from 64.7 in the June quarter 2012 to 53.4 in the June quarter 2013.
- Information supplied to the ACCC's monitoring program suggests much of the fall in the elapsed labour rate between the June quarter 2012 and June

⁴³ The ACCC uses productivity information collected by the BITRE for its *Waterline* journal series. The ACCC understands that productivity information 2012-13 includes terminal activity for HPA during that period. There was minimal impact on 5-port average results given the small volumes processed by HPA at its Brisbane terminal up to 30 June 2013.

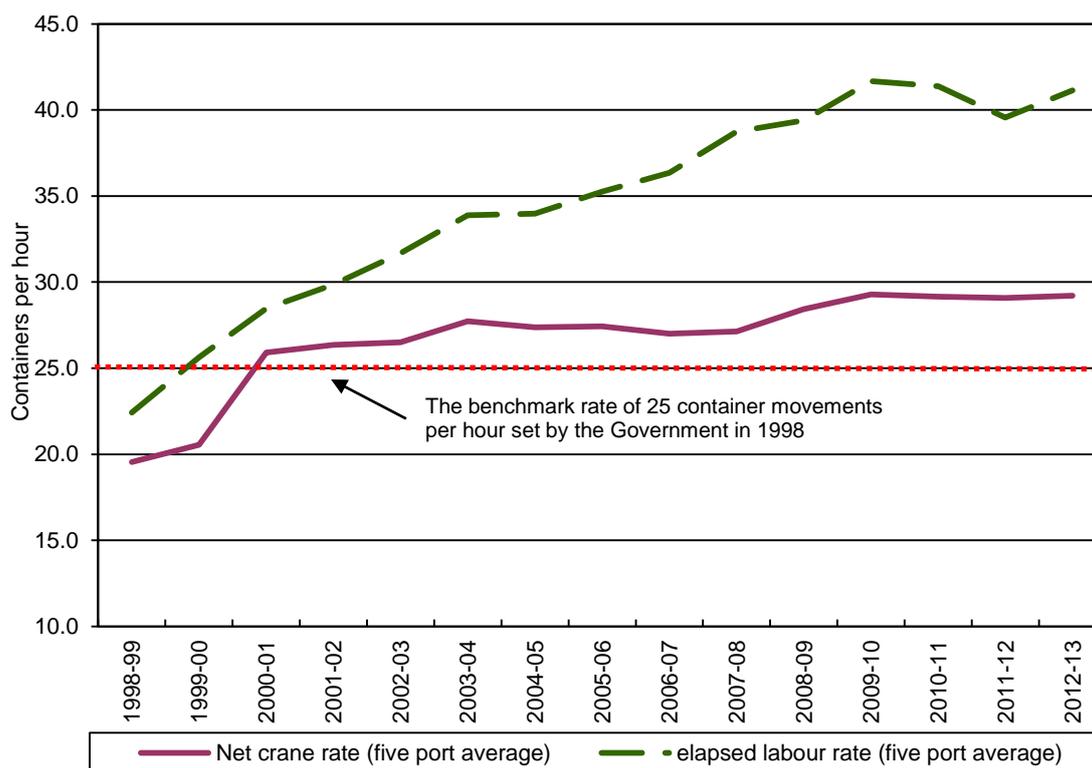
quarter 2013 was likely driven by a noticeable change in ship sizes servicing Australian ports over the last twelve months. The ACCC understands that some smaller vessels that previously serviced Australian routes were removed from shipping rotations and replaced with larger but fewer vessels. The ACCC understands that there was considerable spare capacity on these larger vessels given 2012–13 recorded only modest growth in container volumes.

- Increasing ship sizes (and fewer ships) are likely to explain lower labour intensity rates given the overall task per ship decreases. A shift to larger ships, for example, is likely to have resulted in some re-rostering of labour, with more labour deployed to work larger ships (compared with the number of staff needed to work smaller vessels). With additional labour per ship, the size of the ship task would be expected to fall.

2.4.2 ACCC observations about long-term quayside stevedoring productivity

Australian stevedoring productivity levels, in terms of both labour intensity and capital intensity, have vastly improved since the waterfront reforms of 1998. This can be seen in figure 2.6 which shows the movements in the five-port average elapsed labour rate and net crane rate between 1998–99 and 2012–13.

Figure 2.6: Elapsed labour rate, net crane rate (containers per hour) – five-port average, 1998-99 to 2012-13



Source: BITRE, *Waterline*, forthcoming publication no. 53. Year average data has been calculated by the ACCC based on quarterly data available in *Waterline*.

Figure 2.6 shows that stevedoring labour has delivered significant improvements in productivity since waterfront reform. In 1998–99, the average elapsed labour rate was 22.4 containers per hour. In 2012–13, this had increased to 41.1. There was some deterioration in the elapsed labour rate during 2011–12 which coincided with industrial action during enterprise agreement negotiations affecting several terminals, although this appears to have been short-lived.

Figure 2.6 also shows the five-port average net crane rate has generally increased since 1998–99. There have been two major ‘step-ups’ in crane productivity; one in 2000–01 and the other around 2009–10. The monitoring data shows that the incumbent stevedores have invested in new equipment and undertaken productivity enhancing initiatives since the commencement of the ACCC’s monitoring program. A significant increment of new investment occurred in 2004–05 with capital replacement and late in 2012–13 with investment in new terminals.

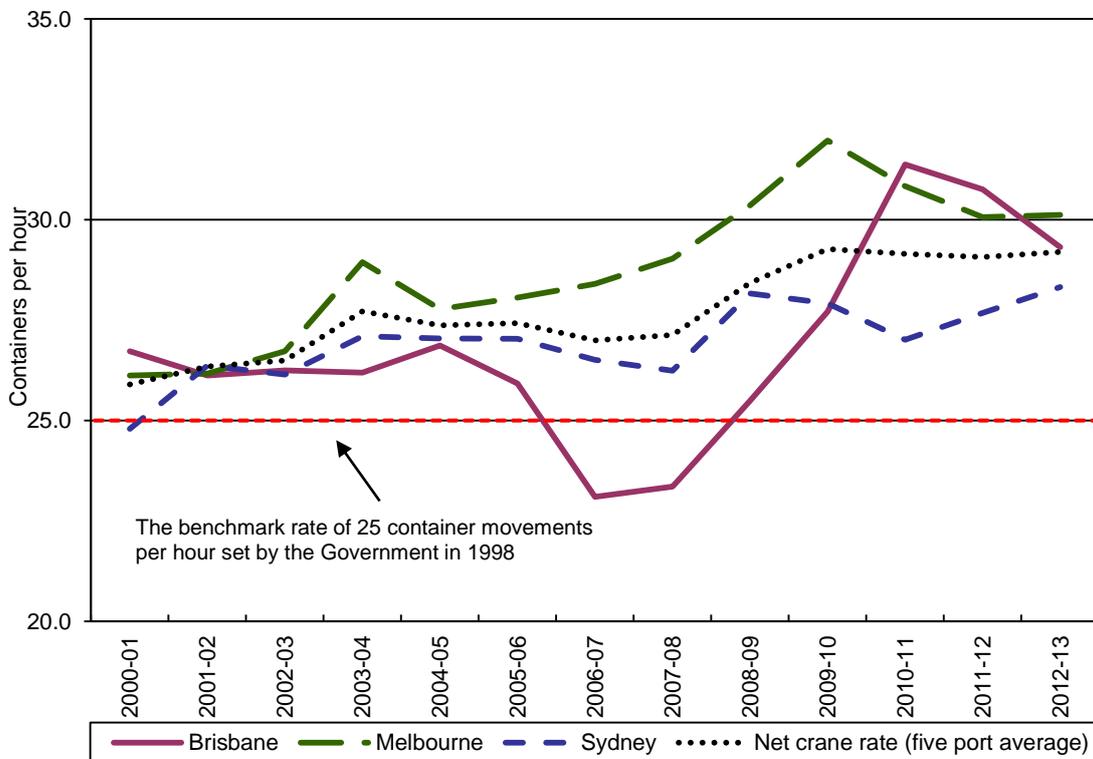
For the last four years in particular, the five-port average net crane rate has plateaued, at least in year-average terms, at just below 30 containers per hour. While it has always remained above the Government’s benchmark of 25 containers per hour set in 1998, this suggests that improvements in productivity achieved immediately after waterfront reforms of the late 1990s have not continued.

Recent announcements by the incumbents to implement new technology and reconfigure existing terminals are significant for driving further productivity improvements. The move away from the long-held duopoly in Australian stevedoring is also expected to drive further improvements as competition for the supply of stevedoring services is expected to increase as new terminal operators seek to capture market share.

Sustained improvement in capital productivity is required at Australia’s three largest ports, particularly Sydney

Individual port results of capital productivity provide additional information of different performance outcomes. Figure 2.7 shows trends in the net crane rate (expressed as containers per hour in year average terms) for each of the three largest container ports and the five-port average between 2000–01 and 2012–13.

Figure 2.7: Net crane rates (containers per hour) - Melbourne, Sydney, Brisbane and five-port average, 2000-01 to 2012-13



Source: BITRE, *Waterline*, forthcoming publication no. 53. Year average data has been calculated by the ACCC based on quarterly data available in *Waterline*.

Key observations from Figure 2.7 are:

- On an individual port basis:
 - *Melbourne*—Of the three largest container ports, Melbourne has generally recorded the highest crane intensity rates. However, since 2010–11, average crane rates have trended downwards. At times since then, Brisbane, which has had around half the volume throughput of Melbourne, has exceeded productivity levels in Melbourne.
 - *Sydney*—Productivity levels have generally been below the five-port average since 2000–01. This suggests that some of the gains associated with increased capital productivity following waterfront reforms and capital investment, did not materialise at Sydney to the same extent that they did for other ports. Further incentives to increase capital productivity at Sydney may be required.
 - Patrick’s decision to introduce automation to its Port Botany facility in 2014 is significant as it is expected to improve productivity once the technology is embedded. This is based on the ACCC’s observations about Patrick’s experience in Brisbane, where it has achieved higher productivity outcomes at its Fisherman Islands terminal since the introduction of its Autostrad technology in 2005–06. While it took several years to embed the technology, the ACCC understands the terminal has achieved sustained productivity improvements in more recent years.
 - A third terminal operator should also bring additional competitive pressure that should drive all players to offer a more efficient quayside service.
 - *Brisbane*—The greatest improvement in productivity levels of any of the largest container ports in Australia has occurred in Brisbane. While capital productivity temporarily fell below the benchmark rate throughout 2006–07 and 2007–08 as Patrick introduced new technology at its Fisherman Islands terminal, there have been significant gains in productivity levels since then.

Actions taken by the stevedores at particular ports, especially in Sydney, to improve crane intensity rates remain important to providing a more productive quayside service.

2.4.3 Productivity in landside stevedoring services

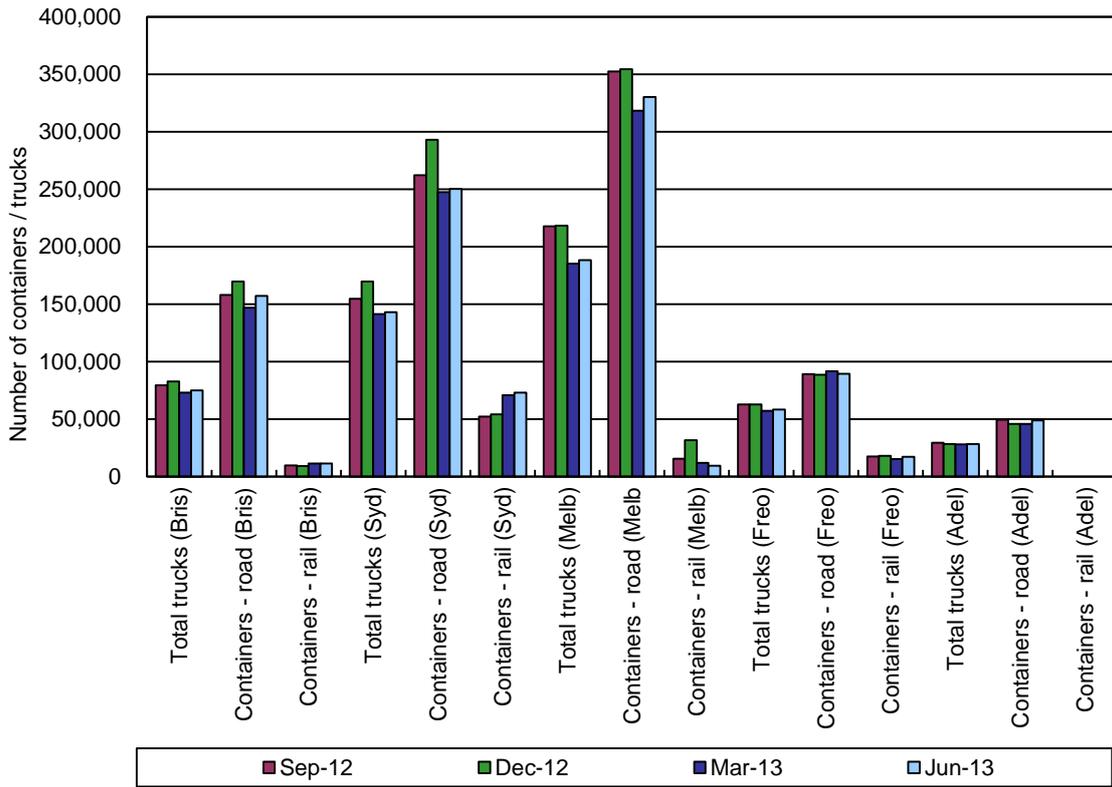
The BITRE publishes a range of landside performance indicators. There are three groups of indicators published: (1) indicators of the size of the landside task at port terminals; (2) performance indicators and (3) indicators of activity in vehicle booking systems.

Size of the landside task

Figure 2.8 shows the size of the landside task across the five mainland container ports between the September quarter 2012 and the June quarter 2013. Several indicators are used:

- total number of trucks
- total number of containers transported to and from the port by road
- total number of containers transported via rail.

Figure 2.8: Size of the landside task, for each of the five mainland container ports, 2012-13



Source: BITRE, *Waterline*, forthcoming publication no. 53.

Figure 2.8 shows:

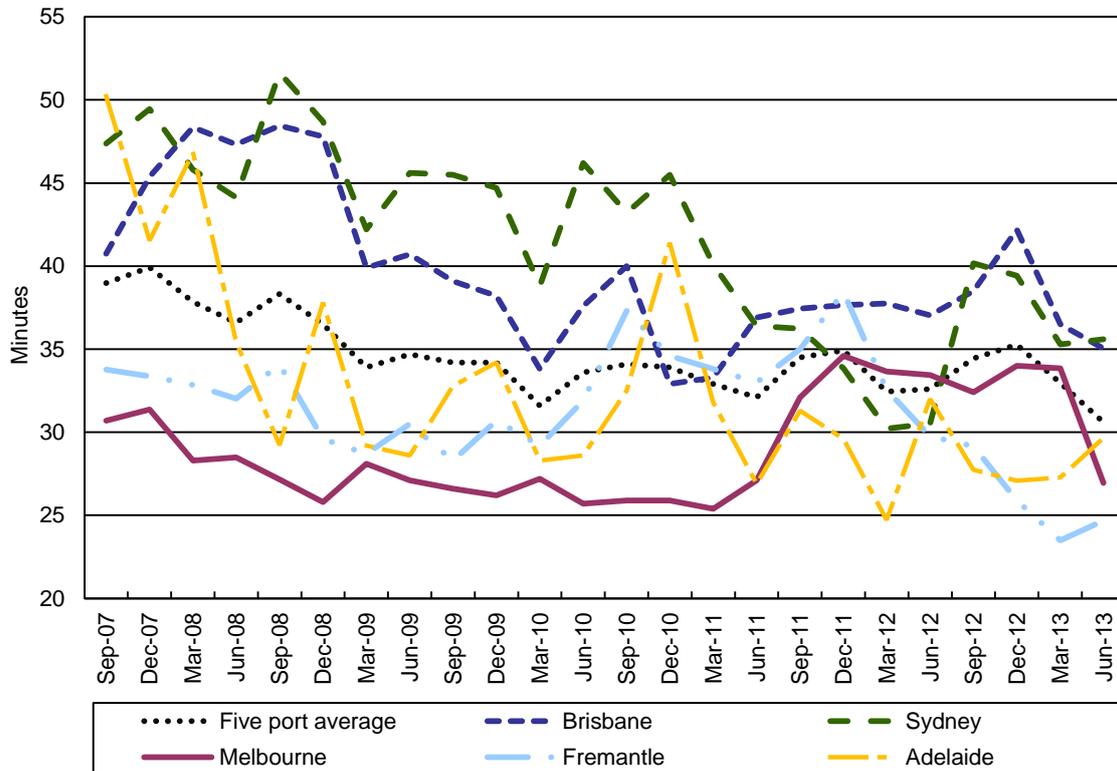
- The size of the landside task follows container throughput patterns. This is expected as the amount of transport activity at a container terminal is ultimately a function of the number of containers being exchanged. The size of the landside task is greatest in Melbourne and Sydney, Australia’s two largest container ports.
- For all of the ports, the movement of containers is dominated by road.
- While the number of containers transported by rail is currently low, rail freight use is becoming an increasingly important issue for managing container flows in and around Australia’s major ports, most notably in Sydney.
- Railing of containers to and from Port Botany is expected to increase in coming years now that the SSFL, a dedicated freight line, has been completed. Rail access rules that improve coordination of freight paths and windows as well as rail pricing solutions are also important to maximising the use of rail infrastructure and offering a viable substitute in some cases to road transport. Construction of new intermodal terminals around Sydney (Enfield, Moorebank) should also contribute to better utilisation of rail port shuttle services.⁴⁴

⁴⁴ More discussion about land-side efficiency involving road and rail usage is presented in section 1.5.

Truck turnaround times have improved

Truck turnaround times are a measure of landside productivity and show how fast a stevedore processes trucks within a terminal.⁴⁵ Figure 2.9 shows average truck turnaround times for each of the mainland container ports and the five-port average between the June quarter 2008 and June 2013.

Figure 2.9: Average truck turnaround times, mainland ports and five-port average, 2008 to 2013



Source: BITRE, *Waterline*, forthcoming publication no. 53.

Figure 2.9 shows:

- On average, across all five mainland ports, average truck turnaround times have improved, falling from 39.0 minutes in the September quarter 2007 to 30.6 minutes in the June quarter 2013.
- The greatest improvement in truck turnaround times has occurred in Sydney, particularly since the December quarter 2010. At that time, turnaround times of 45.5 minutes were observed. These fell to 35.6 minutes in the June quarter 2013.
 - Much of this improvement in Sydney is likely to be due to the introduction of PBLIS by the NSW Government and Sydney Ports in February 2011.
 - Under PBLIS, the NSW Government and Sydney Ports have set a benchmark rate indicator for turnaround times of 50 minutes. Where the stevedore exceeds the benchmark, it is required to pay financial penalties to the transport operator. Where a transport operator arrives early or late or

⁴⁵ This indicator measures the length of time that a truck takes from the time it enters a port terminal to the time it exits the port terminal. This measure does not include the time a truck waits outside before it enters the gate of the port terminal. For more information, see *Waterline* at www.bitre.gov.au.

fails to arrive (a 'no show'), it is required to pay financial penalties to the stevedore.

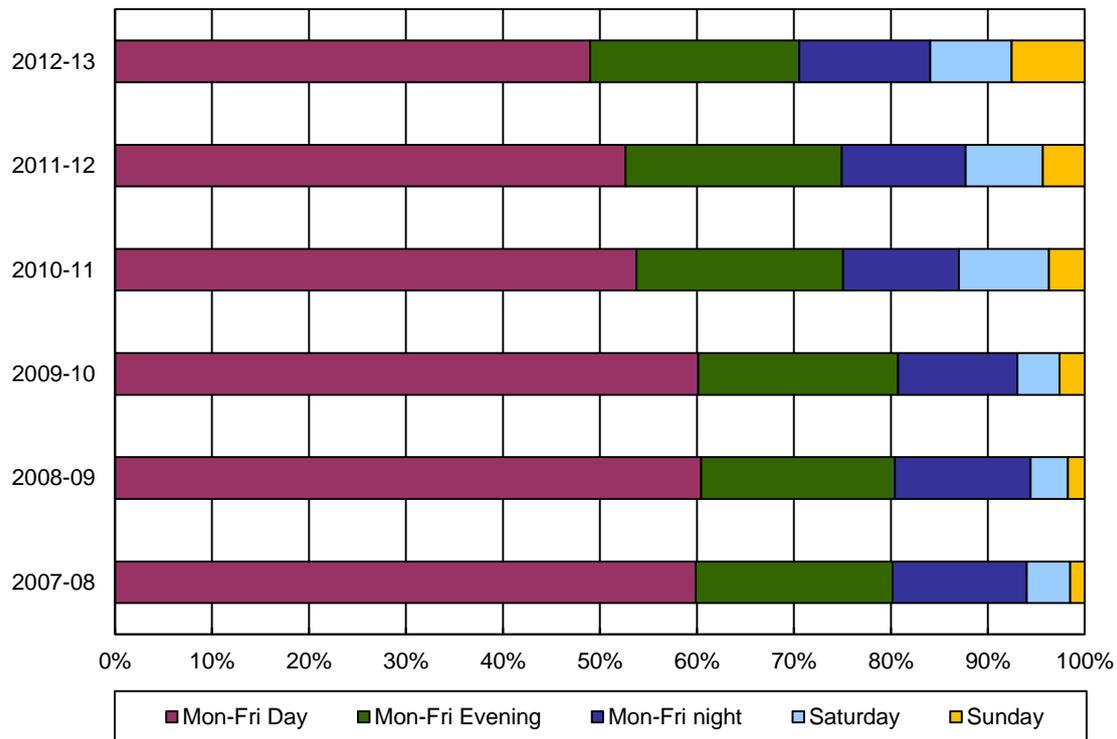
- Information supplied to the ACCC as part of the monitoring program indicates that the flow of penalties between the stevedores and the transport operators are substantial. When PBLIS was first introduced, the net flow of revenues was from the stevedores to the transport operators (suggesting that the stevedores were the ones mostly failing to meet their benchmark). However, more recently, the net flow of revenues has been to the stevedores.
- Truck turnaround times in Melbourne have tended to be the lowest of the three largest container ports. However, outcomes in Melbourne deteriorated during 2011–12, which coincided with periods of congestion at one of the terminals.
 - During 2012–13, average truck turnaround times appear to have improved, falling from a high of 34.6 minutes in the December quarter 2011 to 27.0 minutes in the June quarter 2013.
 - This is likely to reflect several factors, including: more modest growth in throughput in 2012–13 compared with 12 months earlier; modifications to truck entering and exit procedures; and upgrades to VBS systems. The ACCC also understands that DP World Australia is considering further measures to ease terminal congestion in and around its West Swanson Dock by exercising an existing lease option with the Port of Melbourne Corporation to expand its terminal into the intermodal facility across Coode Road.

Demand for access to container terminals skewed to peak periods

VBS revenues are small in terms of the proportion of overall revenues earned by the stevedores. In 2012–13, VBS revenues represented 2.4 per cent of total industry revenues. However, VBS systems are significant as they provide the terms and conditions of access by a transport operator to a container terminal. They also provide an organised system for stevedores to manage truck movements inside the terminal gate and allocate labour and equipment resources.

Figure 2.10 shows, in percentage terms, the use pattern of vehicle booking systems across the five container ports between 2008–09 and 2012–13.

Figure 2.10: Adjusted vehicle booking system usage, five-port average, 2008 to 2013



Source: BITRE, *Waterline*, forthcoming publication no. 53.

Notes: The definitions of the time windows are as follows: Day (0600-1800 Monday to Friday), Evening (1800 – 2400 Monday to Friday), Night (2400-0600).

The figure shows:

- Despite most container terminals offering 24 hour/7 days operations, weekday access is the mostly intensely used.
- Weekday VBS activity is consistently the highest during the daytime. In 2012–13, 49 per cent of VBS usage occurred during Monday to Friday between 6am and 6pm. 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.
- Evening and night-time slots Mondays to Fridays are the next most popular times for cargo movements by truck.
- Weekend access remains a small proportion, although it has increased in recent years. In 2012–13, weekend access represented 16 per cent of total VBS usage, considerably higher than 5 per cent which was recorded in 2007–08.

A greater shift away from busy day-time windows towards off-peak times for access to container terminals is likely to assist in maximising investments in existing port infrastructure. It could also mean postponement of investment to extend road and port infrastructure around port gates and adjoining areas. More intensive use of night time and weekend slots should also assist in managing traffic congestion around our largest container ports, particularly as Australia’s freight task is expected to double over the next twenty years.

The ACCC understands that lease conditions governing the new terminal to be added to the Port of Melbourne at Webb Dock could require that truck access (there will be no rail facilities to the terminal) be maximised at night and on weekends (i.e. during off-peak times).⁴⁶ It is foreseeable that once existing leases at Swanson Dock expire, similar conditions could be likely to apply as a way of managing truck congestion on local roads through the CBD and inner city areas.

At other ports or where no such lease conditions exist, other incentives, such as through pricing mechanisms, to encourage the transport industry to better use landside facilities could be required.

Overseas ports are dealing with similar landside challenges

The BITRE in 2011 published a paper examining overseas approaches to managing scarce capacity in landside stevedoring services.⁴⁷ The paper noted that where overseas jurisdictions have introduced peak period pricing for truck slots at stevedoring terminals, this had led to rapid improvements in landside efficiency in terms of quicker turnaround times and an easing of congestion given truck operators have an incentive to access terminals during off-peak times.

- The BITRE paper focused on examining best practice in landside port efficiency in four areas: the management of peak demand for container pick up and drop off; truck turnaround times; congestions at the port and in the port's hinterland; and rail's mode share in container haulage.
- In the first three areas, improvements overseas were achieved using well-designed pricing instruments. The most notable overseas example was the success at Los Angeles/Long Beach container ports in California where 50 per cent of the daily demand for truck trips were shifted to the off peak window by use of pricing. In Australia, the demand for truck trips during the day time peak ranges from 55 per cent to under 70 per cent of total daily demand. Therefore, there seems to be room for improvement at Australian ports.⁴⁸
- The BITRE paper also noted that the Southampton Container Terminal (in the UK) is reported to have succeeded in cutting congestion at and around the port through the introduction of an IT system coupled with peak pricing for trucks accessing the port.⁴⁹
- For improvements in rail haulage, the paper notes the experience at the Port of Rotterdam in the Netherlands. In 2002 the share of rail in container transport was reported to be around 8 per cent, increasing to 9 per cent in 2005, and projected to be 20 per cent by 2035. One explanation cited for this growth in mode share was investment in rail infrastructure. In 2007, the Euromax rail terminal at the Port of Rotterdam was opened with capacity of 3.2 million TEUs. Furthermore, the port has a dedicated railway line, freely accessible to all.⁵⁰

NSW IPART recommended peak period pricing at Port Botany

The use of peak period pricing to encourage a shift in demand is untested in Australian stevedoring.

In 2008, IPART released a report entitled, "Reforming Port Botany's Links with Inland Transport".⁵¹ The terms of reference for the IPART review focussed on current port-related

⁴⁶ The Age, *Truck plan for nights, weekends*, 14 May 2012.

⁴⁷ BITRE, 'An investigation of best practice land-side efficiency at Australian container ports', September 2011.

⁴⁸ BITRE, 2011, p11.

⁴⁹ BITRE, 2011, p.7.

⁵⁰ BITRE, 2011, p.11.

⁵¹ IPART, *Reforming Port Botany's links with inland transport*, March 2008. The report is available on IPART's website at www.ipart.nsw.gov.au.

freight concerns — how to increase productivity by driving higher volumes through existing port infrastructure while reducing congestion. IPART was asked to consider the stevedores' VBS, rail access arrangements, the provision of any ancillary services to industry in connection with the stevedore business and recommendations for matters which it considered important for improving efficiency at the landside interface.

IPART found that road transporters experienced physical congestion at the stevedores' terminals and 'virtual congestion' in the VBS systems. One of the key problems needed to be addressed was that VBS slots were not necessarily allocated to the road transporters that value them most. They were (and continue to be) allocated on a first-come-first-served basis. Given that further significant growth in the container task was expected over coming decades, significant changes needed to be made to reduce this congestion and improve the efficiency of the interface between the stevedores and the road transporters.⁵²

The key recommendation made by IPART was that the stevedores should adopt a new system for allocating vehicle bookings at Port Botany. IPART suggested that all slot bookings be allocated via an internet-based, descending bid or "Dutch" auction system. This online VBS would feature two categories of slots with different levels of services attached to them. IPART considered that this method of allocation would create peak hour slots with higher service guarantees attracting higher prices which would in turn encourage more non-peak hour bookings thus reducing congestion and inefficiency.

The NSW Government response to the IPART review noted that there was no industry support for implementation of the proposed auction system, with various stakeholders identifying price uncertainty and the system's complexity as key concerns.

Instead, it decided to introduce a two-phased approach to reducing road congestion. 'Phase One' would be led by industry and a series of performance standards agreed with Sydney Ports. If, after an appropriate time, Sydney Ports were to find coordination and efficiency had still not improved sufficiently, the Government may move to 'Phase Two' and intervene through direct regulatory intervention and manage the VBS.⁵³

To date, the NSW Government's Phase One approach—currently known as PBLIS—has resulted in improved average truck turnaround times at stevedoring terminals. However, VBS usage patterns during off-peak times remain low, as is the case with other Australian container ports generally. This could reflect an on-going misalignment of opening hours with other parties (such as warehousing operations, empty container parks) in Port Botany's container supply chain. However, it could also suggest that other incentives, such as peak period pricing, are necessary to smooth out peak period demand.

2.4.4 Concluding ACCC observations about stevedoring productivity

Long-term trends of stevedoring productivity show significant improvements have been made in labour productivity. There are likely to be several contributing factors to this, including the waterfront reforms of the late 1990s as well as moves to more flexible labour arrangements since 1998.

During 2012–13, both incumbent stevedores reported less industrial action at existing terminals compared to 2011–12 when there were some disruptions to stevedoring operations at several locations associated with enterprise wage negotiations. Australia's newest stevedoring operator, HPA, reported that it has finalised its enterprise agreement with the Maritime Union of Australia (MUA) during 2012–13 in which labour flexibility was a critical element.

⁵² Ibid., p.2.

⁵³ NSW Government, Response to the Independent Pricing and Regulatory Tribunal of New South Wales' Report, *Reforming Port Botany's links with inland transport*, September, 2008 pp.2-6.

Long-term capital intensity rates have also generally improved, with the greatest gains being made at Brisbane where automation has been introduced. Plans by the existing stevedores to roll out automation (i.e. Patrick in Sydney) and reconfigure existing terminals (i.e. DP World Australia in Brisbane) are therefore significant. New entry via HPA is also expected to drive further improvements in industry productivity as competition increases.

Landside productivity remains an ongoing challenge for all Australian container ports, particularly as container volumes are expected to more than double between now and 2030. Pressures of increasing volumes as well as continued reliance on major road networks to complete Australia's freight task will require all stakeholders in the landside supply chain – not just the stevedores – to play their part and develop more innovative solutions.

Peak period pricing as well as other incentives to shift demand for terminal access towards off peak times are specific measures that have worked well in overseas jurisdictions which are worth considering in Australia.

3 Detailed monitoring results

3.1 Introduction

This section provides more details on the ACCC's 2012–13 monitoring program, including an assessment of revenues, costs, margins and industry returns.

For 2012–13, the monitoring program includes information supplied by the four container stevedoring companies – Patrick, DP World Australia, Adelaide Container Terminal Pty Ltd and HPA.

The ACCC's monitoring results for 2012–13 show that the inclusion of HPA for the first time has had a minimal impact of stevedoring revenues and costs for that year. This was to be expected as new terminals are likely to take some time until customers are secured. HPA recorded relatively small revenues in line with its small amount of stevedoring activity at the Port of Brisbane in 2012–13. Some costs associated with new terminal development have been capitalised in 2012–13, in recognition of a firm in start-up mode whereby costs associated with building life-long assets are expected to generate future economic returns.⁵⁴ Asset values reflecting new terminal development and related equipment (cranes and straddles) have had a considerable impact of expanding the industry's (average tangible) asset base.

These issues are discussed more fully throughout the following sections.

3.2 Revenues

Unit total revenue is a measure of average revenue earned from the complete range of services. Unit total revenue is defined as total revenue divided by total volume and is therefore an average measure of all unit revenues earned by the stevedores.

Unit stevedoring revenue is revenue from core stevedoring services (i.e. from lifting containers onto and from ships) and is an average measure of revenue earned on all containers. This report also presents data on unit stevedoring revenue for 20- and 40 foot containers.

Unit other revenue is total revenue earned from services other than stevedoring services, divided by total volume.

3.2.1 Sources of revenue

The main sources of revenue reported to the ACCC by stevedores are:

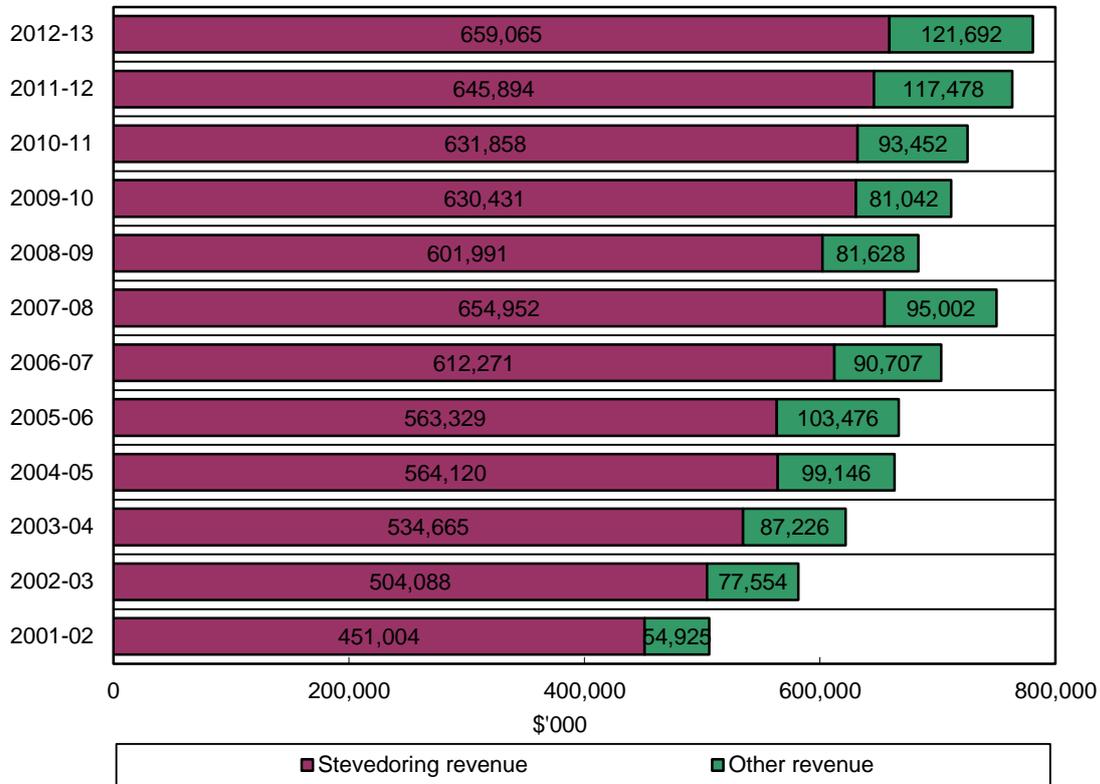
- revenues from the stevedoring function
- revenues from other or ancillary activities.⁵⁵

⁵⁴ Capitalising costs is an attempt to follow the Matching Principle of accounting. The Matching Principle seeks to match expenses with revenues. In other words, match the cost of an item to the period in which it is used, as opposed to when the cost was incurred. As some assets have long lives and will be generating revenue during that useful life, their costs may be amortized over a long period. An example of this would be costs associated with constructing a new terminal. The costs associated with building the asset (including labour costs) can be added to the carrying value of the fixed asset on the balance sheet. These capitalised costs will be recognized in future periods, when revenues generated from the plant output are recognised.

⁵⁵ These activities are related to the container stevedoring function but are distinct from the process of lifting containers and attract separate fees to stevedores. In essence, the term 'other' refers to all activities other than the stevedoring activity, including activities such as break-bulk, berth hire, container storage and

Figure 3.1 shows the change in the components of total revenues (expressed in real terms⁵⁶) between 2001–02 and 2012–13.

Figure 3.1 Components of total revenue, real terms, 2001–02 to 2012–13



Source: nominal data supplied by stevedoring companies to the ACCC as part of the annual monitoring program. The ACCC uses quarterly changes in the RBA GDP deflator series (G04), Other Price Indicators, Chain Price Index, to express nominal data in real terms to calculate a consistent deflator series over time. Base year for ACCC deflator series = 2000-01.

The figure shows, not surprisingly, that stevedoring revenue is the most significant source of revenue for container stevedoring companies. In line with growing volumes, stevedoring revenue has grown by nearly 50 per cent in real terms since 2001–02.

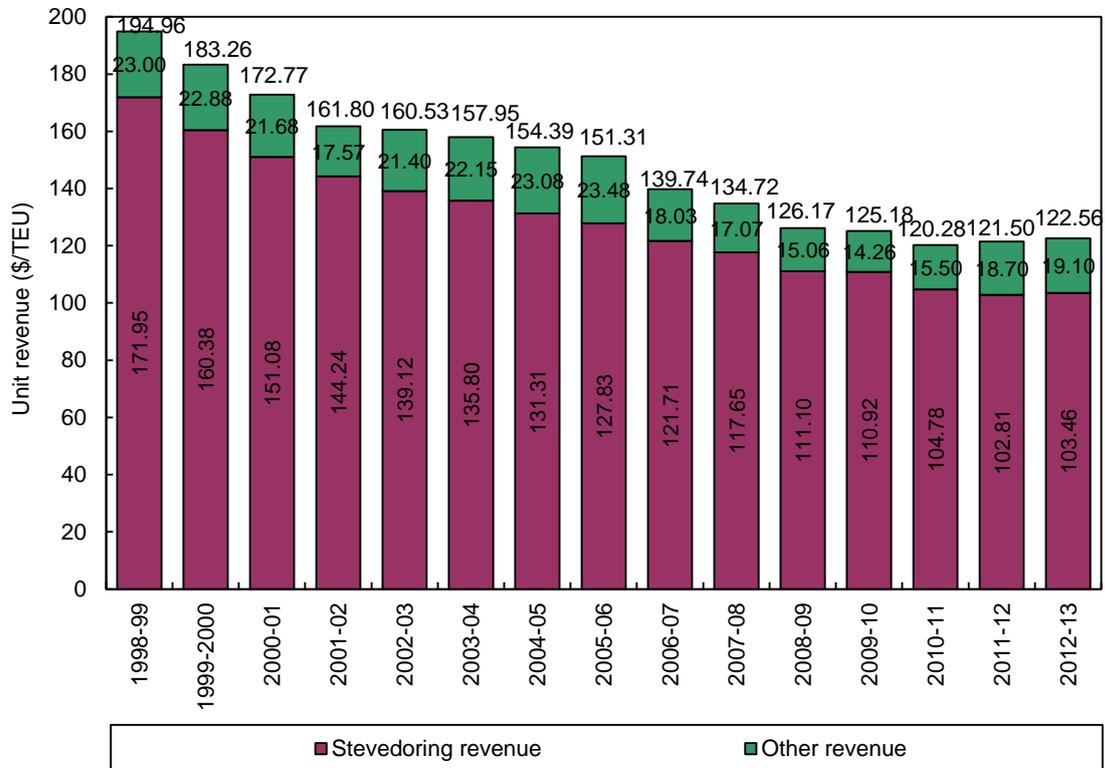
Revenue from non-stevedoring revenues, whilst relatively small in overall terms, has been an increasingly important source of income for the stevedores. Between 2001–02 and 2012–13, non-stevedoring revenues more than doubled in real terms from \$54.9 million (expressed in 2000–01 dollar terms, and represents 10.9 per cent of real total revenue) to \$121.7 million (15.6 per cent of real total revenue).

repositioning, penalties, and services provided to the Australian Customs Service as part of the Customs examination facility program.

⁵⁶ In this chapter, where the ACCC refers to 'real terms', the data is in 2000–01 dollar levels.

Figure 3.2 presents a schematic comparison of real unit revenues earned on stevedoring and other services per TEU between 1998–99 to 2012–13.

Figure 3.2: Components of total revenue per TEU, real terms, 1998–99 and 2012–13



Source: nominal data supplied by stevedoring companies to the ACCC as part of the annual monitoring program. The ACCC uses quarterly changes in the RBA GDP deflator series (G04), Other Price Indicators, Chain Price Index, to express nominal data in real terms to calculate a consistent deflator series over time. Base year for ACCC deflator series = 2000-01.

The figure shows that, in real terms:

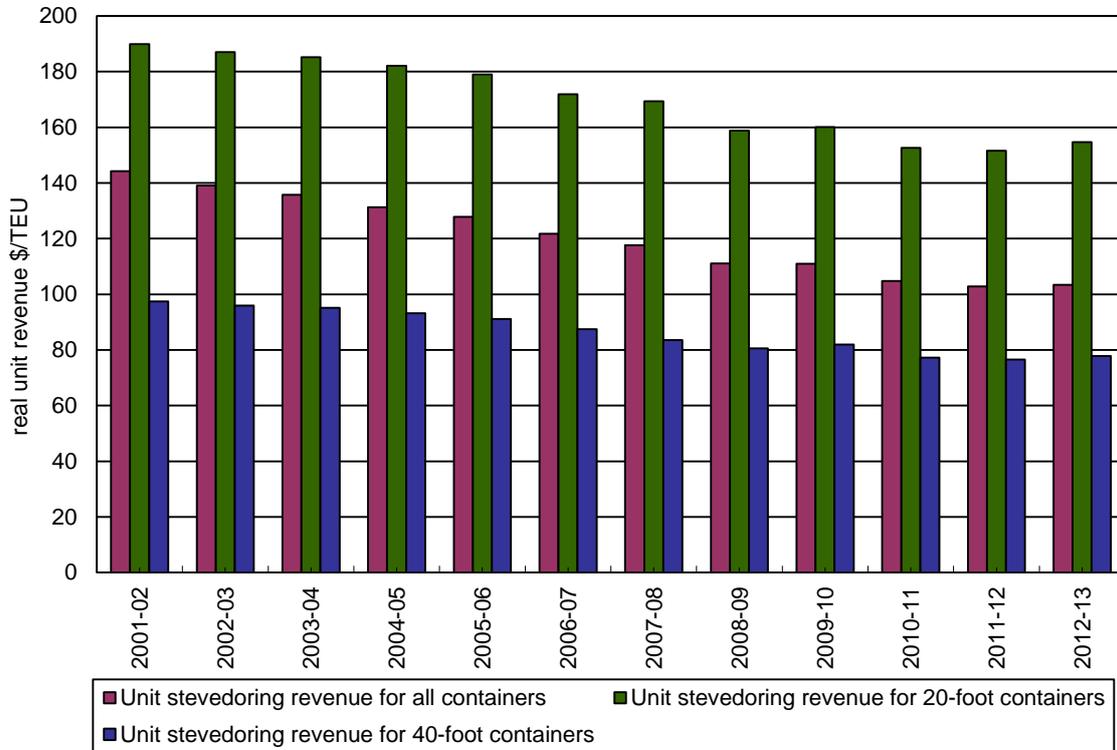
- per unit total revenues have fallen by 37.1 per cent, from \$194.96/TEU in 1998–99 to \$122.56. This is attributable to lower per unit revenues from stevedoring and non-stevedoring activities.
- per unit revenues from stevedoring activities decreased by 39.8 per cent from \$171.95/TEU in 1998–99 to \$103.46.
- per unit revenues from non-stevedoring activities decreased by 17.0 per cent from \$23.00/TEU in 1998–99 to \$19.10.

3.2.2 Unit stevedoring revenue—by type of container

Unit stevedoring revenue is a weighted average measure of stevedoring revenue earned on all containers. The proportion of containers represented by 20- and 40-foot containers, as well as relative changes in these proportions, can affect the average measure of unit stevedoring revenue. For example, a relative increase in the use of 40 foot containers can have a downward effect on average measures of revenue expressed in terms of TEUs. This is explained more fully below.

To isolate the effects of product mix changes in broad average measures, the ACCC analyses separate data on unit revenue allocated among 20- and 40 foot containers. These provide a more accurate indication of changes in prices actually paid by users for each type of container.

Figure 3.3: Unit stevedoring revenue by type of container (20- and 40-foot containers), real terms, 2001-02 to 2012-13



Source: nominal data supplied by stevedoring companies to the ACCC as part of the annual monitoring program. The ACCC uses quarterly changes in the RBA GDP deflator series (G04), Other Price Indicators, Chain Price Index, to express nominal data in real terms to calculate a consistent deflator series over time. Base year for ACCC deflator series = 2000-01.

Notes: data is available from 2001-02 onwards. This was the first period in which the ACCC started collecting separate data on 20-foot containers and the use of 40-foot containers as part of the monitoring program.

The key points arising from Figure 3.3 are:

- Unit stevedoring revenue earned on 20-foot containers has generally fallen since 2001-02. Real unit revenues for this container type decreased by 18.6 per cent from \$189.92 in 2001-02 to \$154.69 in 2012-13.
- Real unit stevedoring revenues earned on 40-foot containers also decreased, this time by 20.1 per cent, from \$97.47 in 2001-02 to \$77.87 in 2012-13.
- In average terms, real unit stevedoring revenues earned on all containers decreased by 28.3 per cent from \$144.24 in 2001-02 to \$103.46 in 2012-13.

Long term trends that show lower real average revenues are indicative of lower stevedoring charges and the effect of increasing volumes over time. However, it is also likely to reflect a change in the product mix over time. This is because, everything else held constant, the quantity of TEUs increases with greater use of 40-foot containers. If the charge for lifting a

20-foot container is the same as for a 40-foot container, it follows that from a stevedore's perspective, a proportionate increase in the use of 40-foot containers will result in lower average revenues. The ACCC understands that stevedoring tariffs typically include charges related to the discharge, loading or re-stowing of a container which are set on the basis of per container lift and are not differentiated on the basis of the size of the container.

Volume information based on container type provided to the ACCC as part of the monitoring indicates that the number of TEUs carried in 40-foot containers was 174.7 per cent greater than in 2012–13 than in 2001–02. The use of 20-foot containers has increased by 34.4 per cent over the same period. Data on the relative use of 20 and 40-foot containers demonstrates a significant shift in usage patterns towards 40-foot containers which, as explained above will result in lower average revenues.

3.2.3 Other revenue—revenue from ancillary services

As noted in section 3.2.1, revenue from non-stevedoring revenues, whilst relatively small in overall terms, has been an increasingly important source of income for the stevedores. Between 2001–02 and 2012–13, non-stevedoring revenues more than doubled in real terms from \$54.9 million (10.9 per cent of real total revenue) to \$121.7 million (15.6 per cent of real total revenue).

Revenues categorised as other revenues include berth hire, storage, container repositioning, asset sales, vehicle booking systems and 'other' non-defined or unidentified activities. A brief discussion of broad trends in some of these revenues is presented below.

Storage revenue

A significant component of other revenues in recent years has been derived from container storage services. It is general practice of the stevedores to provide a free storage period. Storage fees are applied if containers are not collected from the terminals within the fee-free period.

Since 2001–02, total storage revenue has increased, from \$15 million to \$21 million, representing an increase of 41.5 per cent in real terms. On a per TEU basis, storage revenue decreased by 30.5 per cent in real terms from \$4.84 in 2001–02 to \$3.36 in 2012–13.

Decreases in real per unit storage revenues over time can reflect a combination of factors, including decreases in the number of containers remaining in terminals beyond the fee-free period and the move to larger containers.

Vehicle booking systems

Automated VBS are used to manage the flow of containers into and out of the landside of Australia's major container ports. Revenue from this activity represented 15.1 per cent of total 'other' revenue in 2012–13.

Since 2001–02, VBS revenues have grown significantly, from \$1.7 million to \$18.3 million in real terms in 2012–13. On a per unit basis, it has also increased, from \$0.56 to \$2.88 in real terms over the same period.

Long term trends of increasing VBS revenues, in overall terms and on a per unit basis are likely to reflect a number of factors. They could for example, represent higher VBS charges. In 2012–13 alone, the ACCC understands that both stevedores reported price increases during the monitoring period.⁵⁷

⁵⁷ However, a large portion of the reported increase in 2012-13 was due to one of the major stevedores reporting a reallocation of VBS revenues associated with registration and slot fees from other non-defined revenues in 2011–12 to VBS related revenues in 2012–13.

Higher VBS revenues over time most likely also reflect an increase in number of the vehicle runs to and from container ports commensurate with higher container exchanges. BITRE data indicates that since the September quarter 2006, the average number of trucks accessing Australia's five major container ports has increased by 15.8 per cent. At the same time, truck intensity rates have remained largely unchanged. The number of TEUs per truck has hardly changed, from 2.4 TEUs per truck in September quarter 2006 to 2.3 TEUs per truck in the June quarter 2013.

'Undefined' sources of revenue

In previous monitoring reports the ACCC has drawn attention to increases in revenue from activities not specified or otherwise defined within the 'other' category.

Revenue from undefined sources listed as 'other' within the 'other revenue' category has increased significantly since 2001–02; by around 970 per cent in real terms to \$42.3 million in 2012–13. On a per TEU basis, revenue from undefined sources has increased from \$1.26/TEU in 2001–02 to \$6.64 in 2012–13, which represents an increase of 426 per cent in real terms.

It is understood from information previously provided by the stevedoring companies that most of the growth in 'other' undefined revenue in recent years is from services provided to the Australian Customs and Border Protection Service (ACS) as part of the container examination facilities (CEFs) program. Between 2003–04 and 2011–12, the number of TEUs inspected (x-rayed) at CEFs by the ACS increased by 14.0 per cent from 89 687 TEUs to 102 247 TEUs. For 2011–12, the number of inspections exceeded the government's target for sea cargo inspections of 101 500 TEUs.⁵⁸

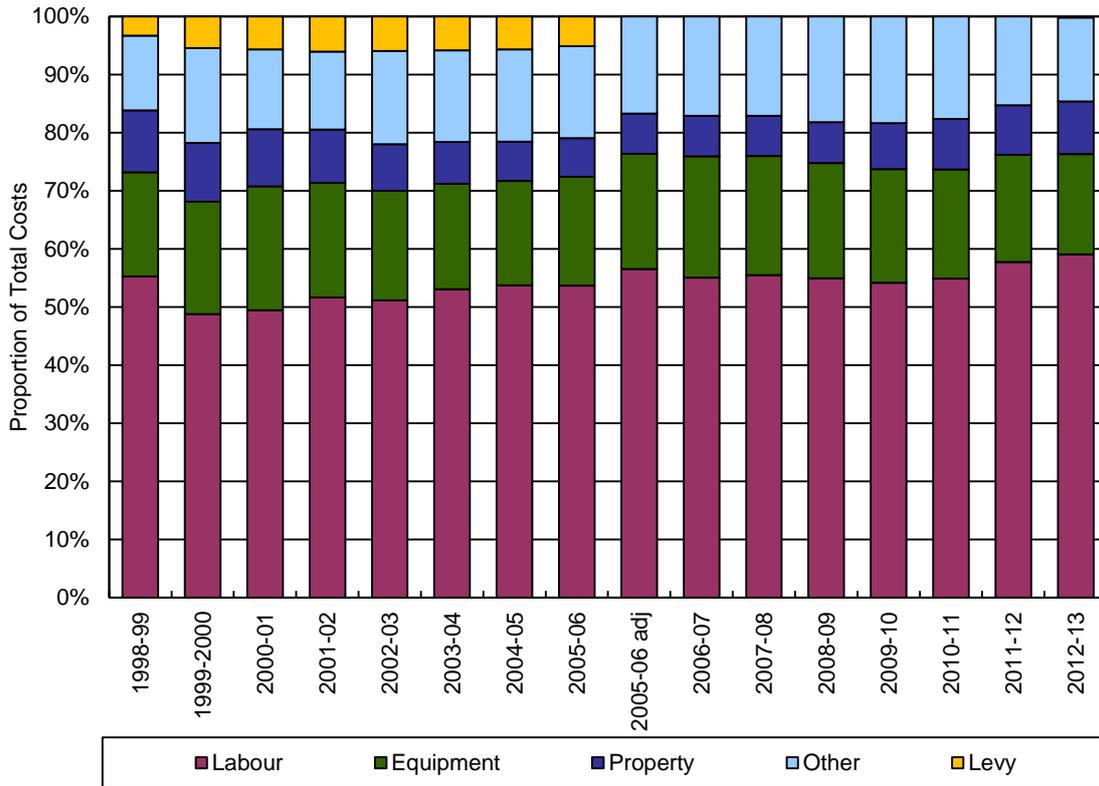
3.3 Costs

3.3.1 Relative cost shares

Figure 3.4 shows changes in the share of total costs held by key cost components from 1998–99 to 2012–13.

⁵⁸ The ACCC understands that the first ACS CEF began in November 2002. A published breakdown of the number of TEUs examined by the ACS through the CEF system is publicly available from its annual reports published from 2003-04 onwards. ACS annual reports can be downloaded from www.customs.gov.au. At the time the ACCC finalised this monitoring report, the ACS annual report for 2012-13 was not publicly available.

Figure 3.4: Cost components as a proportion of total costs (%), 1998–99 to 2012–13



Source: nominal data supplied by the stevedoring companies

Notes: Other costs include port management costs and other overhead costs. Costs between 1998–99 and 2005–06 are not directly comparable with the cost proportions in the following years because of the effect of cessation of payment of the stevedoring levy by the stevedores from the end of May 2006. To provide some comparability of cost proportions in 2005–06 with cost data in the following years, an ‘adjusted’ series for 2005–06 is included in the figure that excludes payments of the stevedoring levy as a cost component in that year.

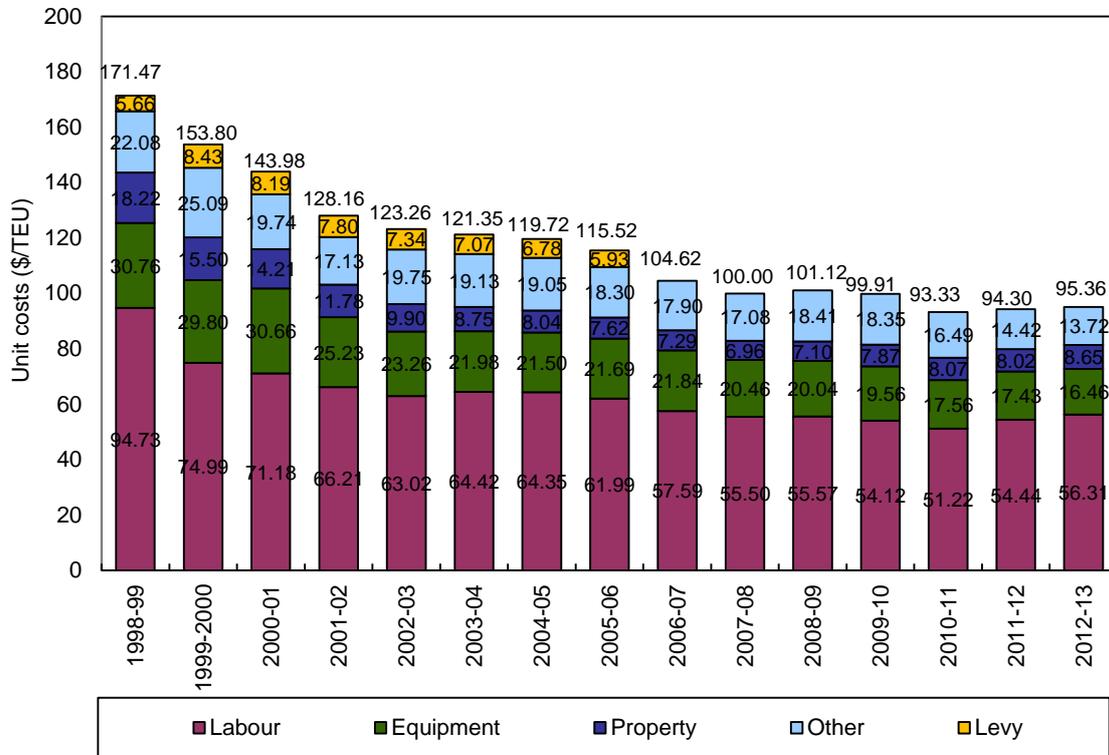
The following observations can be made from figure 3.4 on the composition of costs:

- Labour and equipment costs have been the major drivers of total costs since 1998–99.
- Labour costs increased from 57.7 per cent of total costs in 2011–12 to 59.1 per cent in 2012–13.
- Equipment costs (includes depreciation), the largest component after labour, decreased from 18.5 per cent of total costs in 2011–12 to 17.3 per cent in 2012–13.
- Property costs increased marginally from 8.5 per cent of total costs in 2011–12 to 9.1 per cent in 2012–13.
- The ‘other’ category (which includes port management fees and other costs, including indirect costs such as corporate overheads as well as other direct costs) decreased for the third consecutive year from 15.3 per cent of total costs in 2011–12 to 14.4 per cent in 2012–13.

3.3.2 Variations in unit cost components

Figure 3.5 shows changes in the various cost components per TEU in real terms between 1998–99 and 2012–13.

Figure 3.5: Cost components per unit (\$/TEU), real terms, 1998–99 to 2012–13



Source: nominal data supplied by stevedoring companies to the ACCC as part of the annual monitoring program. The ACCC uses quarterly changes in the RBA GDP deflator series (G04), Other Price Indicators, Chain Price Index, to express nominal data in real terms to calculate a consistent deflator series over time. Base year for ACCC deflator series = 2000-01.

Some observations drawn from figure 3.5 are:

- **Labour**—Labour costs per TEU have decreased since 1998–99. In real terms, per unit labour costs have fallen by 40.6 per cent; from \$94.73 in 1998–99 to \$56.31 in 2012–13.
- Waterfront reform, reduced over-manning and broader workplace flexibility are all likely contributing factors to lower real unit labour costs over time.
 - In more recent years however, per unit labour costs (both in real and in nominal terms) have risen. In 2011–12 and 2012–13, nominal per unit labour costs increased by 7.5 per cent and 2.6 per cent respectively.
 - In 2011–12, the stevedores reported higher unit labour costs as a result of industrial action associated with enterprise bargaining at some terminals. In 2012–13, more modest growth in per unit labour costs were reported by both major stevedores as a result of significantly less industrial action compared with the previous twelve months. Information provided to the monitoring program indicated that some labour cost savings were also driven in part by rostering and other changes under new enterprise agreements.

- The impact of new terminals and labour engagement was minimal in 2012–13. The new terminal at the Port of Brisbane was very much in its infancy throughout 2012–13, and only a small contingent of labour was required commensurate with the level of initial activity that occurred at that terminal.⁵⁹
- *Equipment*—Unit equipment costs (including depreciation)⁶⁰ decreased by 46.5 per cent in real terms between 1998–99 and 2012–13. This is likely to have been associated with newer, more efficient equipment being installed at several terminals over time, resulting in lower running and maintenance costs. In 2012–13, lower per TEU equipment costs were also reportedly driven by lower fuel costs compared to the preceding 12 months.
- *Other*—Other unit costs decreased by 37.9 per cent in real terms from \$22.08 in 1998–99 to \$13.72 in 2012–13. This largely reflects lower real port management and overhead costs.
- *Property*—Property costs are 52.6 per cent lower in real terms than in 1998–99.
 - In 2012–13, per unit property costs increased in both real and nominal terms. Higher property costs were reported by all of the major stevedores and also included the recognition of rates and rents associated with new terminal development.

3.4 Major capital investments in terminal capacity

A summary of the major capital investments in terminal capacity undertaken by the stevedores during 2012-13 was presented in chapter 1. All of the stevedores included in the ACCC's monitoring program reported significant investment in terminal capacity over the latest monitoring period. The main initiatives include:

- **Patrick** – the stevedore is engaged in a significant asset replacement program of cranes and other stevedoring equipment at all four of its terminals. Some initial expenditure has occurred in line with the stevedore's plan to automate its Port Botany terminal in mid-2014. Redevelopment of 'the knuckle' site is underway to expand quay-line.
- **DP World Australia** – its major investment program involves its mode change in Brisbane which will see the stevedore run a semi-automated operation, similar to HPA's operations. Some capital equipment has been installed in Melbourne, and new cranes are being procured for Sydney and Fremantle with delivery scheduled for next year.
- **Adelaide Container Terminal Pty Ltd** – the sole stevedore at the Adelaide port upgraded its terminal operating system designed to improve yard management; its reported planned investments involved new quay cranes and straddles for 2013-14 and beyond.
- **Hutchison Ports Australia** – As Australia's newest stevedore, much of HPA's investments were related to new terminal development in Brisbane and Sydney. This involved engineering works, purchase of quay cranes, automated stacking cranes (ASCs), straddles and other capital equipment.

⁵⁹ A proportion of HPA's labour costs were capitalised in line with the development of a new facility that is expected to generate future economic value.

⁶⁰ Unit equipment costs from 2007-08 onwards include amortisation expenses. Note that the ACCC's analysis of industry profitability between 2007-08 and 2011-12 adds back amortisation expenses to earnings before interest and tax (EBIT) for consistency with the asset base measure to which it is compared.

3.5 Rates of return

The ACCC's key measures of profitability of the stevedoring industry have focused on rate of return indicators. In particular, the ACCC considers that an appropriate measure of the stevedoring industry's rate of return and its operating performance is calculated by the ratio of earnings before interest, tax and amortisation (EBITA)⁶¹ and the average value (of opening and closing balances) of tangible assets. 'Tangible assets' refers to the physical infrastructure used by the stevedores to provide container stevedoring services.

EBITA on average tangible assets is used because it is not affected by management decisions regarding financial capital structures which can significantly affect interest expenses and tax payable (and thus post-tax returns) but do not reflect the operating profitability of providing stevedoring services.

Similarly, by using assets as the basis for comparing those returns, the investment base represents the assets employed rather than the shareholders' investment. The ACCC excludes intangible assets from the industry's asset base because of concerns that the intangible assets reported by the stevedores may reflect an expectation at the time they purchased the businesses of earning monopoly rents.

In Australian stevedoring, the value of intangible assets reported by the stevedores as part of the ACCC's monitoring program is significant and reflects goodwill and, for one of the major stevedores, long term and exclusive berth licenses. Based on publicly available information, the ACCC notes that \$1.5 billion of goodwill was allocated to Patrick's container ports for the year ending 30 June 2013.⁶² This represents 66 per cent of the total value of Patrick's assets for its Terminal and Logistics business segment.

Data in table 3.1 shows annualised EBITA for the Australian stevedores since 2001-02 expressed as a percentage of average tangible assets. For 2012-13, the results of the Australian stevedores includes HPA, as a recent new entrant in Brisbane as well as a recognition of costs and assets associated with the almost completed terminal development in Sydney.⁶³

⁶¹ From 2007-08 onwards, rate of return calculations exclude intangible assets from the calculation of the average asset base and EBIT has been adjusted to add back in amortisation expenses for consistency with the asset base to which it is compared.

⁶² Asciano Ltd, Appendix 4E, Full Year Report, Year Ending 30 June 2013.

⁶³ HPA's costs include some capitalisation of those costs which recognises the impact on a company's operating balance involving the establishment of a new terminal facility and during its start-up mode.

Table 3.1: Rates of return—EBIT(A) on average assets (%)—1998–99 to 2012–13

	Australian stevedores (tangible assets)	Australian stevedores (re-stated AIFRS) ^a
1998–99	10.57	
1999–00	13.20	
2000–01	15.20	
2001–02	19.29	
2002–03	25.80	
2003–04	27.75	
2004–05	23.06	
2005–06	21.70	
2006–07	22.37	11.49
2007–08 ^b	24.86	8.51
2008–09	17.63	6.11
2009–10	18.39	7.18
2010–11	24.24	9.85
2011–12	29.23	8.03
2012–13	21.86	5.34

Source: Data supplied by the stevedoring companies.

Notes: (a) Figures are re-stated on an AIFRS basis ('Australian Equivalents of International Financial Reporting Standards') using asset values supplied by the stevedores that include revaluations and recognition of intangible assets.

(b) From 2007–08 onwards, rate of return calculations exclude intangible assets from the calculation of the average asset base and EBIT has been adjusted to add back in amortisation and impairment losses (which are both associated with the recognition of intangible assets) for the period.

Table 3.1 shows that:

- Rates of return on average tangible assets for the stevedoring industry have increased substantially since 1998–99. Higher productivity, lower real unit costs and rising volumes throughout most of the period have contributed positively to industry returns.
- In the twelve months to June 2013, rates of return on average tangible assets decreased markedly from 29.23 per cent in 2011–12 to 21.86 per cent. This decrease was due to a combination of factors, including largely unchanged stevedoring earnings resulting from flat volume growth over the twelve month period combined with an overall expansion in the value of the industry's asset base (measured by average tangible assets).
- Asset expansion is a significant and welcome industry development and is critical for ensuring Australian container ports have adequate long-term stevedoring capacity to meet future demand.

- The recent expansion in the industry's asset base most obviously reflects new terminal development in Brisbane and Sydney by HPA. However, it also reflects substantial new investment in existing terminal infrastructure by the two large incumbent stevedores at all ports.
- The resulting measure **should not** be interpreted as a return on the funds invested by shareholders in the respective stevedoring businesses, as such investment would include the price that those owners paid to gain control of those business (which would include goodwill) as well as the market value of existing assets (which would include the effect of revaluations).
 - An estimate based on the asset values provided by the stevedores that includes intangible assets (including goodwill and berth licenses) and asset revaluations would result in an industry rate of return of 5.34 per cent in 2012–13.⁶⁴

Finding appropriate benchmarks to compare average rates of return on assets of the Australian stevedores is problematic. The ACCC, in its previous monitoring reports, has made broad observations on comparisons of the Australian stevedoring industry with selected terminal operators overseas but even this analysis has its limitations. This is because of differences in financial reporting, the scale of stevedoring operations, the degree of vertical integration and other influences on terminal businesses.

In order to assess stevedoring performance more generally, rates of return for Australian stevedoring could still be broadly comparable with other selected companies from the ASX 200 index. In its 2012–13 monitoring program, the ACCC has reviewed its profitability indicators relating to the top 200 companies listed on the ASX and considers that the S&P/ASX 200 'Industrials' Index provides a relatively better comparator than the ASX 200 index because it includes several publicly listed companies in Australia's infrastructure and transport industries.

- Information available to the ACCC through Bloomberg indicates that the average rate of return (expressed as EBITA/average tangible assets) for the S&P/ASX 200 Industrials Index was 8.1 per cent in 2012–13. This is significantly lower than the result of 21.86 per cent reported for the Australian stevedores in the ACCC's monitoring program.
 - Asset values for the S&P/ASX 200 Industrials Index include the effect of asset revaluations and so are not directly comparable to the asset base for the Australian stevedores derived by the ACCC because tangible assets are measured at historic cost. However, the effect of asset revaluations would not be expected to account for all of the difference between the stevedoring industry's figure of 21.86 per cent and the index figure of 8.1 per cent.

More information on the ACCC's approach to estimating rates of return for the container stevedoring industry is presented in Appendix E.

3.5.1 Concluding ACCC observations about industry profitability

Lower industry rates of return in Australian stevedoring are to be expected this year and in future periods, for a number of reasons. Establishment of new terminals at several ports is likely to take several years and so further expansions in the industry's asset base are likely to occur as significant amounts of capital equipment are employed at new terminals. As demand growth is relatively consistent over time (demand has increased by around 6 per cent per annum over the last ten years), it follows that average rates of return across the industry as a whole could be expected to fall in the short term.

⁶⁴ This estimate includes a recognition of the value of intangible assets (goodwill and berth licenses) and revaluations for DP World Australia that was not previously covered in the ACCC's monitoring program.

As an increased number of players provides the opportunity for more aggressive competition, it is less likely that high profits, to the extent that they might have previously reflected economic rents in an industry with low contestability, will continue.

A Company-specific data

A.1 Introduction

This appendix presents company-specific data received from the four stevedore companies involved in the monitoring program. Where appropriate, the data is presented in the form of index numbers to protect commercially sensitive information.

A.2 Asciano (Patrick)

A.2.1 Container volumes

In 2012–13, the number of TEUs handled by Patrick across all ports decreased marginally by 0.3 per cent, following an increase of 11.8 per cent in 2011–12. Patrick's handling of 20-foot containers decreased by 4.6 per cent nationally, while 40-foot containers increased by 2.0 per cent. Patrick reported that the overall decline in volumes was due to a weak domestic economy as well as some volatility in volumes caused by shifts in shipping line consortia over the period.

A.2.2 Revenue and margins

- Patrick's total revenue decreased across all ports by 1.2 per cent in 2012–13. On a per TEU basis, total revenue decreased by 0.9 per cent nationally. Unit total revenues decreased in Brisbane, Fremantle and Melbourne but increased slightly in Sydney.
- Total costs decreased by 3.1 per cent across all ports. On a per TEU basis, costs decreased by 2.7 per cent nationally. Higher total costs per TEU in Fremantle were offset by lower total costs per TEU in Brisbane, Sydney and Melbourne.
- In 2012–13, Patrick's total margin⁶⁵ increased by 4.4 per cent nationally. On a per unit basis,⁶⁶ Patrick's margin increased by 4.8 per cent as decreases in unit costs offset decreases in unit revenues.
- In Sydney and Brisbane, margins per TEU increased by 23.8 per cent and 17.1 per cent respectively. In Sydney, this was due to a combination of lower unit costs and higher unit revenues. In Brisbane, lower unit costs were proportionately greater than decreases in unit revenues. In Fremantle and Melbourne, margins per TEU decreased by 7.7 per cent and 2.7 per cent respectively. For Fremantle, this was the result of lower unit revenues and higher unit costs. In Melbourne, lower unit revenues were proportionately greater than decreases in unit costs.
- Stevedoring revenue per TEU increased marginally by 0.1 per cent across all ports. Other revenue per TEU decreased by 6.2 per cent.
- Patrick earned slightly higher unit stevedoring revenue on 20-foot containers and 40-foot containers than it did in 2011–12.

A.2.3 Changes in cost components

The ACCC collects unit cost data for specific cost categories including stevedoring, labour, equipment and property. Table C 1 in appendix C sets out the data relating to these cost categories for Patrick.

⁶⁵ Total margin represents the difference between total revenues and total costs.

⁶⁶ Unit measures in the ACCC's monitoring report are expressed in terms of per TEU measures.

- Total costs per TEU decreased across all ports by 2.7 per cent in 2012–13. This increase was largely driven by lower unit equipment costs.
- Stevedoring costs per TEU decreased by 3.6 per cent in 2012–13 across all ports. Decreases in Brisbane (–8.0 per cent), Sydney (–4.0 per cent) and Melbourne (–1.4 per cent) offset a small increase in Fremantle (+0.5 per cent).
- Labour costs per TEU increased for the third consecutive year, by 2.0 per cent in 2012–13. Unit labour costs increased in Fremantle (+9.0 per cent), Melbourne (+2.9 per cent) and Sydney (+0.9 per cent), but decreased in Brisbane (–1.1 per cent).
- Equipment costs per TEU decreased across all ports by 3.7 per cent in 2012–13. Unit equipment costs decreased in Brisbane (–14.2 per cent) and in Sydney (–1.7 per cent). These decreases offset higher unit equipment costs recorded in Melbourne (+3.1 per cent) and Fremantle (+0.5 per cent).
- Property costs per TEU increased for the fifth consecutive year, by 6.7 per cent nationally in 2012–13. For individual ports, property costs per TEU decreased in Brisbane by 1.2 per cent (following significant increases in 2010–11 and 2011–12) and at Fremantle (–2.7 per cent). However, these decreases were offset by higher per unit property costs in Melbourne (+14.1 per cent) and in Sydney (+11.0 per cent).
- Patrick's other costs per TEU decreased by 24.7 per cent in 2012–13. Other costs consist of overhead, port management and other direct costs.⁶⁷

A.3 DP World Australia

A.3.1 Container volumes

In 2012–13, the number of TEUs handled by DP World Australia across all ports increased by 2.9 per cent, following a decline of 2.7 per cent in 2011–12. Increases in the number of TEUs handled by DP World Australia in 2012–13 occurred at Brisbane and Sydney while volumes declined at Melbourne and Fremantle. The use of 20-foot containers decreased by 2.6 per cent nationally in 2012–13, while the use of 40-foot containers increased by 5.8 per cent.

A.3.2 Revenue and margins

- DP World Australia's total revenue across all ports increased by 3.4 per cent in 2012–13. On a per TEU basis, revenue increased marginally by 0.4 per cent across all ports. Increases in unit total revenues were recorded at Sydney (+2.1 per cent) and Fremantle (+0.3 per cent), while total unit revenues decreased in Brisbane (–1.0 per cent) and Melbourne (–0.4 per cent).
- Total costs across all ports increased by 2.2 per cent in 2012–13. On per TEU basis, costs decreased marginally by 0.7 per cent across all ports.
- In 2012–13, DP World Australia's total margin increased by 8.2 per cent nationally. On a per unit basis, DP World Australia's margin increased by 5.1 per cent. Margins per TEU decreased at all ports except Sydney. At Brisbane and Melbourne, margins per TEU decreased by 11.8 per cent and 11.3 per cent respectively. For both ports, this reflects higher unit costs and lower unit revenues. In Fremantle, margins per TEU decreased by 64.8 per cent. In Sydney, margins per TEU increased by 55.9 per cent largely as a result of

⁶⁷ Other costs are shown separately in table 1 in appendix C, but are included in industry-wide data presented in figures 3.4 and 3.5.

the increase in the per TEU ratio rather than any significant reductions in real costs. In absolute terms however, margins per TEU in Sydney were lower than in Melbourne and Brisbane.

- Stevedoring revenue per TEU decreased by 0.7 per cent in 2012–13. Other revenue per TEU increased by 7.0 per cent in 2012–13.
- DP World Australia earned higher unit stevedoring revenue for both 20-foot containers and 40-foot containers in 2012–13 than it did in the preceding year. This largely reflects an increase in the relative use of 40-foot containers given that DP World Australia's charges are generally on a container basis, not a TEU basis.

A.3.3 Changes in cost components⁶⁸

The ACCC collects unit cost data for specific cost categories including stevedoring, labour, equipment and property. Table C 2 in appendix C sets out the data relating to these cost categories for DP World Australia.

- In 2012–13, total costs per TEU across all ports decreased by 0.7 per cent. Decreases in total per unit costs at Sydney (–6.3 per cent) and Fremantle (–3.6 per cent) offset increases in total per unit costs as Melbourne (+3.4 per cent) and Brisbane (+3.0 per cent).
- Labour costs per TEU increased marginally across all ports by 0.3 per cent in 2012–13. Unit labour costs increased at Melbourne (+7.0 per cent) and Brisbane (+2.1 per cent) but decreased at Fremantle (–8.2 per cent) and Sydney (–4.5 per cent). DP World Australia indicated to the ACCC in its monitoring program that investments and increases in labour numbers provide platforms for growth in future years.
- Equipment costs per TEU decreased by 9.1 per cent in 2012–13. Falls were recorded at each individual port, with the largest fall in per unit equipment costs occurring at Sydney (–16.3 per cent). In Brisbane, unit equipment costs decreased by 7.9 per cent, followed by Melbourne (–5.0 per cent) and Fremantle (–2.1 per cent).
- Property costs per TEU increased by 3.1 per cent on average across all ports in 2012–13. Unit property costs increased at all DP World Australia's terminals except Sydney, where they decreased by 4.6 per cent. Melbourne, Brisbane and Fremantle recorded increases of 7.7 per cent, 4.5 per cent and 3.1 per cent respectively.
- DP World Australia's other costs per TEU increased by 3.6 per cent in 2012–13. Other costs consist of overheads, port management costs and other direct costs.

A.4 Flinders Adelaide Container Terminal Pty Ltd

A.4.1 Container volumes

In 2012–13, the number of TEUs handled by Flinders Adelaide Container Terminal (FACT) at the Port of Adelaide increased by 2.4 per cent, following an increase of 10.2 per cent in 2011–12. The use of 20-foot and 40-foot containers increased by 0.7 per cent and 3.7 per cent respectively.

⁶⁸ DP World Australia's accounting practices are such that, while revenues are broken down on the basis of container-specific activity at its terminals, costs are not. Therefore, DP World Australia's general cost data relates to stevedoring and other activities at its respective terminals.

A.4.2 Revenue and margins

- FACT's total revenue increased by 5.2 per cent in 2012–13. On a per unit basis, total revenues increased by 2.7 per cent.
- Total costs increased by 16.8 per cent for FACT. On a per unit basis, costs increased by 14.1 per cent.
- In 2012–13, FACT's total margin decreased by 24.0 per cent. On a per unit basis FACT's margin decreased by 25.8 per cent, due to increases in unit costs being proportionately greater than increases in unit revenues.
- Stevedoring revenue per TEU increased by 2.1 per cent in 2012–13. Other revenue per TEU increased by 4.5 per cent. In recent years, revenue from break-bulk activities (which is classified as 'other revenue' for monitoring purposes) has become increasingly important at the Port of Adelaide.
- In 2012–13, FACT earned higher unit stevedoring revenue for 20-foot and 40-foot containers.

A.4.3 Changes in cost components

Table C 3 in appendix C sets out the data relating to specific cost categories for FACT including stevedoring, labour, equipment and property.

- In 2012–13, FACT's total costs increased by 16.8 per cent. On a per unit basis, total costs increased by 14.1 per cent.
- Stevedoring costs per TEU increased by 11.0 per cent in 2012–13, following a decrease of 5.9 per cent in 2011–12.
- Labour costs per TEU increased by 14.1 per cent in 2012–13.
- Equipment costs per TEU decreased by 4.3 per cent in 2012–13.
- Property costs per TEU increased by 102.5 per cent in 2012–13.
- Other costs per TEU increased by 23.0 per cent. Other costs consist of overheads, port management costs and other direct costs.

A.5 Hutchison Ports Australia

HPA was included in the ACCC's monitoring program for 2012–13. Information on revenues, costs and volumes is limited in this report because it is only available for one year (i.e. 2012–13) and so no indexation of company specific information is possible in which to identify changes in financial information. The ACCC will include this analysis in future monitoring reports as more information becomes available.

A.5.1 Container volumes

HPA commenced operations at its Brisbane facility in early 2013. Up to 30 June 2013, it processed a very small number of containers. No container volumes were recorded in Sydney during the monitoring period as the terminal construction was still underway.

A.5.2 Revenue and margins

HPA reported small revenues in line with processing a small amount of volume in Brisbane up to 30 June 2013. Stevedoring margins reflected a company in start-up mode; small revenues were outweighed by costs incurred in terminal developments.

A.5.3 Changes in cost components

The major influences on costs reported by HPA are associated with new terminal developments. There has been substantial investment in civil works and engineering at both the Brisbane Container Terminals and Sydney's International Container Terminals during 2012–13. HPA reported to the ACCC in its monitoring program that building on recently reclaimed land had increased costs, particularly in Port Botany where additional stabilisation works were required.

On the positive side, HPA noted that the enterprise agreement it had negotiated with the Maritime Union of Australia provides the opportunity to reduce costs by establishing flexibility in work arrangements, needed for a start-up stevedoring operation, where work initially is intermittent. The agreement was negotiated on the basis that HPA was introducing automation to achieve efficiencies.

B Selected industry data

Table B.1: Nominal unit data, 1998-99 to 2012-13

	Total rev/TEU (\$/TEU)	Total cost/TEU (\$/TEU)	Total margin/TEU (\$/TEU)	Stevedoring rev/TEU* (\$/TEU)	Stevedoring cost/TEU* (\$/TEU)	Stevedoring margin/TEU* (\$/TEU)	Other rev/TEU (\$/TEU)	Other rev/Total rev (%)
1998-99	182.58	160.57	22.00	161.03	150.88	10.15	21.54	11.8
1999-00	175.01	146.88	28.14	153.16	138.32	14.84	21.85	12.5
2000-01	172.77	143.97	28.80	151.08	134.53	16.55	21.69	12.6
2001-02	165.66	131.14	34.43	147.59	124.12	23.47	17.97	10.9
2002-03	169.00	129.76	39.23	146.46	122.79	23.67	22.53	13.3
2003-04	171.49	131.75	39.74	147.44	124.62	22.82	24.05	14.0
2004-05	175.24	135.89	39.35	149.05	128.09	20.96	26.20	14.9
2005-06	180.08	137.49	42.59	152.14	128.66	23.48	27.95	15.5
2006-07	173.27	129.73	43.54	150.91	121.41	29.50	22.36	12.9
2007-08	173.24	128.59	44.65	151.30	120.41	30.88	21.95	12.7
2008-09	171.44	137.41	34.03	150.97	129.23	21.73	20.47	11.9

Table B1: Nominal unit data—continued

	Total rev/TEU (\$/TEU)	Total cost/TEU (\$/TEU)	Total margin/TEU (\$/TEU)	Stevedoring rev/TEU* (\$/TEU)	Stevedoring cost/TEU* (\$/TEU)	Stevedoring margin/TEU* (\$/TEU)	Other rev/TEU (\$/TEU)	Other rev/Total rev (%)
2009–10	170.94	136.43	34.51	151.47	132.12	19.35	19.47	11.4
2010–11	173.49	134.62	38.87	151.14	128.95	22.19	22.35	12.9
2011–12	177.27	137.58	39.69	149.99	129.05	20.94	27.28	15.4
2012–13	177.42	138.05	39.38	149.77	128.38	21.39	27.65	15.6
% change 2011–12 to 2012–13	+0.08	+0.34	-0.79	-0.15	-0.52	+2.14	+1.37	n/a

Sources: the stevedoring companies, as part of the monitoring program, supplied figures for 1998–2013.

* Data on revenue was supplied by Asciano, FACT and HPA on the basis of container-specific activity in their respective terminals. DP World Australia's accounting practices are slightly different and while revenue figures are broken down in this way, costs are not. Given this, Asciano, FACT and HPA's container-specific data are combined in the above with DP World Australia's stevedoring revenue and general cost data to provide national aggregates.

Table B.2: Real unit revenue, cost and margins, 1986 to 2012-13

	Unit revenue \$/TEU	Unit cost \$/TEU	Unit margin \$/TEU	Deflator \$/TEU	Real unit revenue \$/TEU	Real unit cost \$/TEU	Real unit margin \$/TEU
1986	247.00	239.00	8.00	61.15	403.92	390.84	13.08
1987	244.00	218.00	26.00	65.33	373.52	333.72	39.80
1988	244.00	227.00	17.00	70.85	344.39	320.40	23.99
1989	247.00	241.00	6.00	76.93	321.09	313.29	7.80
1990	254.00	262.00	-8.00	81.10	313.19	323.06	-9.86
1991	244.00	243.00	1.00	84.10	290.13	288.94	1.19
1992	195.00	196.00	-1.00	85.73	227.47	228.64	-1.17
1993	195.00	190.00	5.00	86.78	224.72	218.96	5.76
1994	201.00	188.00	13.00	87.55	229.58	214.73	14.85
1995	206.00	191.00	15.00	94.00	219.15	203.19	15.96
1996	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Jan-Jun 1997	188.00	n/a	n/a	92.90	202.37	n/a	n/a
1998-99	182.58	160.57	22.00	93.65	194.96	171.46	23.50
1999-2000	175.01	146.88	28.14	95.50	183.26	153.80	29.46
2000-01	172.77	143.97	28.80	100.00	172.77	143.97	28.80
2001-02	165.56	131.14	34.43	102.33	161.80	128.16	33.65
2002-03	169.00	129.76	39.23	105.27	160.53	123.26	37.27

Table B2: Real unit revenue, cost and margins—continued

	Unit revenue \$/TEU	Unit cost \$/TEU	Unit margin \$/TEU	Deflator \$/TEU	Real unit revenue \$/TEU	Real unit cost \$/TEU	Real unit margin \$/TEU
2003–04	171.49	131.75	39.74	108.57	157.95	121.35	36.61
2004–05	175.24	135.89	39.35	113.51	154.39	119.72	34.67
2005–06	180.08	137.49	42.59	119.02	151.31	115.52	35.79
2006–07	173.27	129.73	43.54	124.00	139.74	104.62	35.11
2007–08	173.24	128.59	44.65	128.60	134.72	100.00	34.72
2008–09	171.44	137.41	34.03	135.88	126.17	101.12	25.04
2009–10	170.94	136.43	34.51	136.56	125.18	99.91	25.27
2010–11	173.49	134.62	38.87	144.24	120.28	93.33	26.95
2011–12	177.27	137.58	39.69	145.90	121.50	94.30	27.20
2012–13	177.42	138.05	39.38	144.76	122.56	95.36	27.20
% change							
2011–12 to 2012–13	+0.08	+0.34	–0.79	–0.78	+0.87	+1.12	–0.01
1998–99 to 2012–13	–2.8	–14.0	+79.0	+54.6	–37.1	–44.4	+15.8

Sources and notes: ACCC 1996, Monitoring of stevedoring costs and charges and terminal handling charges 1995. Figures for January–June 1997 are an estimate derived from the Bureau of Infrastructure, Transport and Regional Economics publication series Waterline. The stevedoring companies, as part of the monitoring program, supplied figures for 1998–2013. Australian Bureau of Statistics, G04, Other Price Indicators, Chain Price Index, Gross Domestic Product (available at www.abs.gov.au).

C Company trends in cost components

Table C.1: Asciano (Patrick) trends in nominal cost components (per TEU) index, 2002-03 to 2012-13

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Brisbane											
Stevedoring cost index	89.0	86.0	84.0	85.9	82.0	76.8	85.7	89.7	95.1	86.6	79.7
Total labour cost index	87.4	92.7	89.3	91.1	75.2	70.1	76.9	65.1	68.7	70.2	69.4
Total equipment cost index	62.0	49.1	46.0	54.4	76.4	78.9	86.9	105.0	118.0	109.8	94.3
Total property cost index	59.2	55.0	48.6	41.7	35.1	32.8	42.3	66.3	82.2	104.3	103.0
Port Botany											
Stevedoring cost index	78.1	78.1	79.2	81.6	81.1	79.8	85.0	89.2	84.6	94.3	90.6
Total labour cost index	79.3	84.2	88.3	89.7	92.8	94.7	101.2	101.0	103.9	119.9	121.0
Total equipment cost index	73.2	67.6	71.4	78.5	87.6	73.4	76.4	72.9	65.8	67.8	66.7
Total property cost index	49.9	47.4	44.5	54.2	52.7	53.5	55.2	54.8	58.2	66.2	73.5

Asciano (Patrick) trends in nominal cost components (per TEU) index—continued

	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Melbourne											
Stevedoring cost index	80.6	80.1	81.7	79.0	74.2	73.5	75.9	79.6	79.4	74.4	73.4
Total labour cost index	79.8	86.1	92.8	88.9	89.8	88.5	87.5	90.2	94.2	92.0	94.6
Total equipment cost index	78.8	68.7	67.1	69.6	67.6	65.4	68.0	61.8	63.6	60.4	62.3
Total property cost index	47.1	38.6	35.4	32.9	37.5	32.9	37.3	38.1	39.4	36.8	42.0
Fremantle											
Stevedoring cost index	68.7	73.7	83.0	86.1	78.3	80.6	90.1	90.3	83.3	77.7	78.1
Total labour cost index	60.5	70.3	85.7	89.4	84.5	84.9	93.5	94.6	87.8	85.2	92.9
Total equipment cost index	53.2	51.6	52.7	52.0	54.8	67.4	76.7	62.3	62.5	56.3	56.6
Total property cost index	90.5	101.5	115.4	133.6	147.4	149.5	149.0	142.6	120.6	102.1	99.4

Asciano (Patrick) trends in nominal cost components (per TEU) index—continued

	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Burnie #											
Stevedoring cost index	92.9	82.5	96.1	109.7	100.4	101.8	117.9	119.5	159.8	NA	NA
Total labour cost index	84.3	79.1	107.3	117.7	109.8	116.2	135.8	122.0	195.9	NA	NA
Total equipment cost index	111.1	103.7	112.2	147.4	130.7	134.4	140.4	135.3	210.1	NA	NA
Total property cost index	75.0	52.5	76.7	109.4	103.2	225.3	455.3	576.0	872.8	NA	NA
National											
Stevedoring cost index	79.1	79.2	81.2	81.8	78.5	77.2	83.2	86.9	85.2	84.1	81.1
Total labour cost index	77.7	83.9	89.6	89.5	87.3	86.8	92.1	90.2	93.3	96.2	98.2
Total equipment cost index	73.5	65.9	66.1	72.4	79.0	74.7	79.6	78.5	78.0	73.3	70.6
Total property cost index	53.2	48.6	46.1	47.7	48.7	47.0	52.3	57.4	61.2	66.0	70.4
Total cost* index	77.7	78.2	80.6	82.7	79.0	77.4	82.9	82.6	83.8	85.3	83.0

Base year is 1998-99 = 100 Index estimates for 1999–00, 2000–01 and 2001–02 are publicly available in ACCC Monitoring Report No. 14.

Patrick closed its Burnie operations in May 2011. * Other costs are included in the total cost index but not shown as a separate cost category.

Table C.2: DP World Australia trends in nominal cost components (per TEU) index, 2002-03 to 2012-13

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Brisbane											
Total labour cost index	80.6	86.8	89.4	93.4	93.4	91.8	92.6	88.1	81.3	86.5	88.3
Total equipment cost index	94.9	100.4	101.6	109.4	125.2	133.1	129.5	140.0	116.0	112.1	103.2
Total property cost index	62.8	56.4	52.4	48.6	52.7	55.5	51.8	57.0	66.3	84.0	87.8
Total cost index	86.3	92.4	92.6	97.4	95.5	94.2	96.1	97.6	86.6	88.3	91.0
Port Botany											
Total labour cost index	78.8	80.9	81.1	80.7	79.0	84.6	93.5	90.4	83.2	91.0	86.9
Total equipment cost index	107.2	107.1	105.9	117.4	117.2	112.4	120.1	114.7	97.0	111.5	93.4
Total property cost index	101.9	98.6	94.5	95.2	98.6	95.7	106.0	113.9	122.2	109.1	104.1
Total cost index	85.7	88.7	89.4	90.5	84.9	86.0	95.1	93.5	85.3	89.9	84.3

DP World Australia trends in nominal cost components (per TEU) index—continued

	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
West Swanson											
Total labour cost index	71.1	73.2	79.3	81.2	77.2	76.7	78.0	73.7	71.7	81.5	87.2
Total equipment cost index	106.2	123.6	123.1	133.1	124.5	131.0	128.2	115.4	102.2	107.6	102.3
Total property cost index	69.0	59.7	59.1	52.1	43.9	49.6	49.7	46.7	50.4	56.8	61.2
Total cost index	90.2	92.1	97.6	95.1	87.3	91.2	96.5	90.6	85.8	86.5	89.5
Fremantle											
Total labour cost index	74.0	78.7	76.7	75.4	75.0	74.1	79.9	82.3	89.3	110.8	101.8
Total equipment cost index	73.0	67.0	101.5	64.2	65.5	58.7	61.6	71.3	86.5	84.2	82.4
Total property cost index	80.1	75.4	70.3	76.4	68.1	64.8	72.5	73.2	83.7	89.2	92.0
Total cost index	80.6	80.1	84.3	78.2	74.7	71.0	76.2	78.2	88.6	96.2	92.7

DP World Australia trends in nominal cost components (per TEU) index—continued

	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
National											
Total labour cost index	75.4	78.9	81.2	82.6	80.6	81.8	85.7	82.4	78.7	87.7	88.0
Total equipment cost index	99.5	105.5	110.3	113.2	113.6	114.2	115.4	112.4	100.2	105.9	96.2
Total property cost index	76.8	70.1	67.3	64.6	62.4	64.1	66.1	67.9	75.4	79.1	81.6
Total cost* index	86.2	89.0	91.8	91.5	86.1	86.9	92.6	90.3	85.1	87.8	87.2

Base year is 1998-99 = 100. Index estimates for 1999–00, 2000–01 and 2001–02 are publicly available in ACCC Monitoring Report No. 14.

* Other costs are included in the total cost index but not shown as a separate cost category.

Table C.3: Flinders Adelaide Container Terminal trends in nominal cost components (per TEU) index, 2002-03 to 2012-13

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Adelaide											
Stevedoring cost index	88.5	86.3	86.5	84.6	75.7	69.9	72.9	90.9	97.5	91.7	101.7
Total labour cost index	85.5	80.5	79.3	79.2	68.6	62.9	67.8	72.4	74.8	83.6	95.3
Total equipment cost index	109.7	110.6	107.2	105.2	121.6	112.2	107.7	103.1	116.1	125.7	120.3
Total property cost index	17.2	18.8	28.1	22.0	22.5	26.0	33.3	119.6	134.4	22.7	46.0
National											
Stevedoring cost index	75.1	73.3	73.4	71.8	64.3	59.4	61.9	77.2	82.8	77.9	86.4
Total labour cost index	74.1	69.8	68.8	68.7	59.4	54.6	58.8	62.8	64.8	72.5	82.7
Total equipment cost index	85.7	86.5	83.8	82.2	95.1	87.7	84.2	80.6	90.7	98.2	94.0
Total property cost index	11.6	12.6	18.7	14.7	15.1	17.3	22.2	80.0	89.8	15.2	30.7
Total cost* index	76.2	71.2	73.9	72.4	65.4	61.2	63.7	67.2	72.0	74.8	85.3

Base year is 1998-99 = 100. Index estimates for 1999-00, 2000-01 and 2001-02 are publicly available in ACCC Monitoring Report No. 14.

National index for 1998-99, 1999-00 and 2000-01 recognises joint ownership arrangements of container terminal facilities at that time for Brisbane and Adelaide by CSX World Terminals. Operations at Brisbane were terminated in August 2001. * Other costs are included in the total cost index but not shown as a separate cost category.

D Characteristics of the stevedoring industry

D.1 Supply of stevedoring services

Container stevedoring services involves the lifting of containerised cargo on and off ships. Stevedoring companies provide other related services such as storage, maintenance and repositioning of containers. Stevedores also provide services that facilitate the movement of containers from the terminals to road and rail transport links. Arrangements between shipping companies and other port service providers (e.g. towage) can also often be arranged through the stevedore.

D.1.1 Structural arrangements

In Australia, stevedoring services are provided by specialist firms that own container-handling equipment (i.e. cranes and straddles). These stevedoring firms lease berthing and terminal space from the relevant port managers. Typically, these lease arrangements provide exclusive use of terminal and berthing space and are long term, ranging from 20 to 40 years. These long-term arrangements between stevedores and port managers may affect contestability in the industry.

Overseas, stevedoring services are provided under different types of arrangements, such as those with greater integration between the port management and stevedoring functions. For example, at some overseas ports, port managers not only own and manage the port precinct, but supply stevedoring services at the port.⁶⁹ At other ports, port managers own container handling equipment but subcontract the use of this equipment to third-party firms to supply stevedoring services.

D.1.2 Market participants

There are two major operators in Australia for the supply of container stevedoring services: DP World Australia Ltd⁷⁰ and Patrick (a wholly owned subsidiary of Asciano). These firms supply stevedoring services at terminals at the major container ports in Melbourne, Sydney, Brisbane and Fremantle. Patrick previously operated a terminal at Burnie in Tasmania. However, in May 2011, this facility was decommissioned.

Adelaide Container Terminal Pty Ltd is the container stevedoring operator at the Port of Adelaide. Previously, DP World Adelaide supplied stevedoring services at the Port of Adelaide, under a joint venture arrangement between DP World and Flinders Ports. However, in July 2012, Flinders Ports acquired DP World's 60 per cent share of the business, taking its total shareholding to 100 per cent, and changed its trading name to Adelaide Container Terminal Pty Ltd.

At the ports of Brisbane and Sydney, HPA has acquired the rights to operate a new container terminal. The new stevedore is responsible for building the respective terminals and equipping both sites. At Brisbane, HPA commenced operations at Berth 11 in early 2012. Berth 12 is likely to be operational during 2014. Once HPA is fully established, the additional container facilities are expected to increase Brisbane's container handling capacity by 25 per cent. Meanwhile, at Sydney, construction of HPA's new operations is almost complete with the

⁶⁹ In Australia, the Port of Adelaide is the only port at which the port manager has an ownership interest in the container stevedoring business – Adelaide Container Terminal Pty Ltd. This container stevedoring business is wholly owned by Flinders Ports – the port manager of the Port of Adelaide. Previously this business was owned under a joint venture between Flinders Ports and DP World Australia.

⁷⁰ In January 2011, Citi Infrastructure and DP World Australia entered into a strategic partnership in which Citi holds a 75 per cent interest in DP World's Australian container terminal operations.

terminal expected to commence operations later in 2013. This new terminal is expected to increase Port Botany's container handling capacity by around 25 per cent.

D.1.3 Size of the market

Total throughput at Australian ports in 2012–13 was about 6.7 million TEUs.⁷¹

Melbourne is Australia's largest port, with container throughput of 2.5 million TEUs in the year to June 2013. Sydney is Australia's second largest port, processing 2.1 million TEUs in 2012–13. The third largest monitored port in 2012–13 was Brisbane (1.0 million TEUs), followed by Fremantle (670 000 TEUs), Adelaide (339 000 TEUs).

D.1.4 Capacity in stevedoring

In recent years there has been a focus on increasing capacity of ports and container terminals to cope with expected growth in containerised trade.

Both incumbent stevedores and port managers are responsible for managing stevedoring capacity. Capacity is determined by a number of factors, which vary in terms of the ease with which they can be manipulated to increase capacity at a port. These factors include:

- quay length
- berth utilisation
- total number and size of cranes
- size and use of the container storage (yard) space
- size and skill of the labour force
- application of new technologies relating to the use of terminal space.

It is important that the above factors are managed and utilised efficiently to ensure that capacity at a port is sufficient to meet demand.

Quay length is likely to be the most significant factor because it provides an absolute constraint on the number of ships that can berth at any one time. Quay length is absolutely fixed in the short term and acts as a physical restraint on capacity. Port managers control the quay length available and allocated to the stevedores as part of their overall land management responsibilities at the port. They also have additional responsibilities in managing other waterside aspects of the port, such as swinging basins and channel depth.

The level at which shipping berths are used is likely to be influenced by several factors. These may include the arrival pattern of ships, whether they are part of a regular service or arrive at random, and the strictness with which ships arrive within or outside their allocated windows. The time stevedores spend servicing the ship at the berth may also influence berth utilisation rates.

Stevedores have direct control over the amount, size and type of equipment used in the provision of stevedoring services. The number of cranes is fixed in the short term and therefore sets a ceiling on the level of throughput in any given period of time. Whether this ceiling is reached is determined by the productivity of the cranes.

While port managers determine the size of yard space allocated to the stevedores, the stevedores are responsible for managing the efficiency of this yard space. The continued

⁷¹ BITRE, *Waterline*, forthcoming publication no.53.

growth of surrounding port areas and the encroachment of residential areas in metropolitan ports like Melbourne and Sydney have limited the amount of yard space available for container storage. This has given rise to the movement of container storage facilities away from the immediate port area to locations in close proximity. It has also forced stevedores to consider the ways in which they manage their yard capacity, including the layout of the yard, the container dwell time and optimal stacking heights.

Finally, stevedores have control over the size and skills of the labour force as well as the degree to which new technologies are employed at their terminals.

Because of the unpredictable nature of shipping services, infrastructure to provide stevedoring services must be sufficiently large and flexible to process irregular and fluctuating levels of throughput. As volumes increase, periods of peak activity become more frequent and intense. It is likely that in an efficiently configured stevedoring operation there will be some surplus capacity, in terms of both quay crane capacity and yard capacity, to meet the shipping industry's requirements.

D.1.5 Expansion of ancillary services

The role of stevedoring in the overall transport logistics chain appears to be changing as stevedores are increasingly expanding their operations in related services. There seem to be two main areas where change is manifesting. One is in services that are ancillary to the stevedoring function. These are services that facilitate a more effective interface with land transport by allowing shippers to move containers more quickly and efficiently from the wharf into their preferred land transport link. Examples of these ancillary services are short stay container storage and interface with the ACS on container examination activities. The other is coordination of stevedoring with road and rail transport to create a more seamless freight logistics chain. A good example of this is the stevedores' membership in the Port Botany Rail Team (PBRT) which meets every month and is designed to enhance rail operational performance, transport supply chain visibility and more effective rail interface with the container terminals.

Stevedores have exclusive access to container terminals and therefore earn revenue from, and have arrangements with, road and rail transport operators for access to the port. These arrangements are facilitated by vehicle booking systems and rail 'windows' (i.e. timeslots during which the train is able to exchange cargo at the port) in an effort to reduce landside bottlenecks.

Unlike in the provision of quayside services, stevedores do not have contractual obligations with trucking operators. This may affect the incentive of the stevedores to allocate resources to process trucking movements through their terminals.

D.1.6 Barriers to entry and exit

Entry and exit costs are important determinants of the degree of contestability in an industry. The higher the entry and exit costs, the lower the potential for new entrants to constrain the behaviour of incumbents. If entry and exit barriers are low, the ability of incumbents, or even an existing monopolist, to charge high prices and earn above normal profits is limited.

In 1998 the PC considered evidence suggesting that the cost of establishing a presence in the industry may not represent a significant obstacle to entry.⁷² However, other features of the industry may make entry difficult.

The ACCC has not formed a view about the height of barriers to entry in the stevedoring industry. However, the entry of HPA at the Port of Brisbane and Port Botany suggests that such barriers can be overcome under certain circumstances. Furthermore, with new entry potentially on the horizon at the Port of Melbourne, it appears that the stevedoring industry in Australia is increasingly contestable.

⁷² PC, *Work arrangements in container stevedoring*, 1998, p.140.

Economies of scale

It is generally accepted that there are economies of scale in container stevedoring. Efficiencies available to a larger operator, typically in terms of management and coordination of workforce and equipment, may not be available to stevedores operating on a smaller scale. Economies of scale can be a barrier to entry if a new entrant must capture a large share of the market to operate efficiently.

Previous ACCC monitoring reports suggested that while entry and exit costs are not generally considered large,⁷³ it is likely that economies of scale are sufficiently important to preclude viability for a large number of operators at Australia's major container ports.

On the other hand, decisions to establish a third terminal at the Port of Brisbane, Port Botany and the Port of Melbourne indicate that economies of scale are not sufficiently strong to discourage a third stevedoring operation at the larger ports, particularly those that have already established sufficient scale at container ports overseas.

Exclusive and long-term lease arrangements

The exclusive and long-term nature of lease arrangements between stevedores and port managers can be barriers to entry. These arrangements for the lease of berthing and terminal space usually range from 20 to 40 years' duration. The degree to which these lease arrangements act as a barrier to entry may also be affected by a historical tendency of port managers not to invite competitors to bid for the leases as they near the end of their term.

In response to the New South Wales Competition Infrastructure and Reform Agreement (CIRA) review, the New South Wales Government amended its *Ports and Maritime Administration Act 1995* to require new leases to include end-of-term handover provisions.⁷⁴ The review also recommended that the way in which the terms and conditions for long-term land leases are determined should be made more transparent.

Need to establish a multi-port presence

In Australia, no single port acts as the primary destination for ships, as is often the case in other countries. Rather, vessels typically operate across several ports that are separated by long distances. Shipping lines therefore need to establish a sequential network of suitable berthing windows across several ports so that they are able to maintain their shipping schedules.

Presently, the two major stevedoring companies each offer a national service whereby there is one contract covering a number of Australian ports. A national service is likely to offer advantages to users. For example, it is likely to reduce transaction costs by allowing a shipping line to deal with a single provider of stevedoring services rather than a different one at each port. Also, a national provider may offer shipping lines incentives in terms of volume discounts that would not be available from single-port operators.

Furthermore, a national stevedore may undertake to coordinate its various terminals so that a vessel that arrives at a port behind schedule can be brought back on schedule by the time it leaves Australia.

The existence of national contracting is unlikely to be a barrier sufficient, by itself, to preclude a single-port operator from competing aggressively for business. A single-port operator, for

⁷³ The PC considered evidence suggesting that cranes cost about \$10 million; however, the existence of a secondary market means that not all the cost of a new crane represents a sunk cost that would be forfeited on exit. See PC, *Work arrangements in container stevedoring*, 1998, p.140. Following implementation of work practice reforms, there is greater flexibility in the labour arrangements can be managed, and this is also likely to promote entry.

⁷⁴ New South Wales Government, *NSW government response to the review of port competition and regulation in NSW under the Council of Australian Governments' Competition and Infrastructure Reform Agreement*, September 2008.

instance, may be more inclined to offer its customers a price discount or service guarantee so that it can attract new business away from an established operator with a national presence.

D.2 Demand for stevedoring services

The users of stevedoring services are foreign shipping lines. Some shipping lines that service Australian ports are part of consortia arrangements in which several lines participate to share space on vessels.

The demand for stevedoring services is a derived demand. The absolute size of the market is determined by the volume of shipping transport, which in turn is strongly influenced by general economic activity and competition from other forms of transport such as air, road and rail. Stevedores are not able to significantly influence the overall size of the shipping transport market.

The total amount of demand for stevedoring services is also influenced by the trading route decisions of shipping lines, in particular whether they will call into a certain port. Some locations may not be suitably situated for shipping lines—for example, a location may constitute too much of a diversion from the shipping line's trade route, a direct shipping route may not be available to that location or the sea channel may not allow the passage of a particular size of vessel.

While it appears that shipping lines regularly change shipping routes and regularity of cargo services, the largest Australian ports are not considered substitutable. However, shipping lines do consider a few other factors when determining whether to call into a port. These include their customers' demands and significant charges incurred by the shipping line to reach that port (i.e. fuel costs).

D.2.1 20- and 40-foot containers

The ACCC has been collecting product differentiated data for seven years. The data highlights that the use of 40-foot containers has grown. The data also suggests that stevedores charge less for 40-foot containers on a per TEU basis than for 20 foot containers. This could be one of the reasons why shippers (importers/exporters) are increasing their relative demand for 40-foot containers. On average, this movement towards 40-foot containers has facilitated lower per unit prices for shippers.

The impact of 40-foot containers on the stevedores' average costs is not clear. While the costs of lifting 20- and 40-foot containers may be reasonably similar, the ACCC understands from market inquiries that there may be higher costs involved in storing and re-positioning 40-foot containers. According to one stevedore, the difference in cost can be enough to justify differential pricing when 40-foot containers constitute a substantial proportion of a customer's business.

D.2.2 Potential countervailing power: threat of moving business elsewhere

An important determinant of competition between incumbent stevedores is the extent to which their customers are able to exercise countervailing power.

Some Australian ports may be used by a small number of liner groupings. Each can represent a substantial proportion of throughput at a given port. This means that the loss of a particular line's business can potentially have significant financial consequences for a stevedore. It might therefore be argued that by threatening to shift their business, shipping lines have the ability to exert countervailing power against stevedores.

The extent to which shipping lines can switch stevedores and exert countervailing power may be restricted by contractual obligations with their current provider of stevedoring services. The ACCC understands that this countervailing power may also be constrained in the short term

because the stevedores have limited capacity to service significantly higher levels of business (especially during periods of peak demand). While most terminals currently appear to have some spare capacity, it may not be sufficient to service a substantially larger proportion of the market. Furthermore, where a shipping line seeks a national contract, capacity constraints at only one terminal may effectively preclude that line being accommodated.

Also, inter-port competition may be affected by the large distances between Australia's ports. A shipping line's ability to switch to a stevedore in a different port will be influenced by the additional costs of steaming as well as of transporting the cargo to its ultimate destination. These costs reduce the scope for shipping lines to switch easily to different ports, and so reduce their potential countervailing power. Also, a shipping line's choice of stevedore is often constrained because the same two stevedores generally operate in each of the relevant ports.

D.2.3 Sensitivity to prices and quality of service

The extent of demand sensitivity to prices and service levels can have an important bearing on the competitive discipline faced by firms. Generally, the more sensitive consumers are to prices, the greater is a firm's potential loss of revenue in response to a price rise. Firms that face a relatively price sensitive demand are likely to have less discretion in setting prices.

The evidence on price sensitivity in the stevedoring industry is mixed. The ACCC understands that before 1998, shipping lines had switched stevedores, which suggests that previously there may have been some sensitivity to prices charged by stevedores. The switching of the Oceania Vessel Sharing Agreement (OVSA) contract from Patrick to DP World Australia in late 2009 and Asciano's announcement in July 2011 that it had signed an agreement with Maersk to use Patrick as its sole service provider over the next five years are two notable examples. On the other hand, it appears that shipping lines may be more sensitive to the quality of service than to its cost. Vessels are sensitive to the costs of waiting idly at a port or adjusting port visits. A stevedore's ability to provide efficient and reliable services within specified time windows, minimising waiting costs, is important in facilitating faster transit times for shipping lines.

D.3 Regulation of ports and port services

The approach taken by state governments to regulating ports and port services varies across states. Generally speaking, the states and territories control the port precincts, adjacent land uses and in most cases the connecting transport systems. They can own and finance port related lands and assets and have environmental and safety regulatory responsibilities. There has been a recent trends towards state governments privatising their port interests (e.g. Adelaide, Brisbane and Sydney). The states and territories still have responsibilities for cities and regions in which the ports are located and for the trade internal to their jurisdictions.

Local government may also make decisions affecting ports, including on matters such as land development and road uses.

The Australian Government has key port related functions including navigation, defence, security, environment, border control and competition policy. It owns infrastructure assets, including certain railways and roads, as well as lands suitable for freight activities. The Australian Government has interests in national economic performance, international trade and interstate trade and commerce.

Some issues regarding the economic regulation of ports were covered in the Competition and Infrastructure Reform Agreement (CIRA) reviews conducted in 2007–08. These reviews examined the organisational structure of functions at port precincts, and the economic regulation that applies to the organisations undertaking these functions. The CIRA reviews were conducted on behalf of the states which owned the port managers. The reviews generally found existing arrangements to be satisfactory from a competition policy perspective.

E ACCC monitoring methodology

E.1 Introduction

This appendix provides a detailed explanation of the ACCC's monitoring methodology. In particular, it outlines the ACCC's approach to assessing the profitability of container stevedoring terminal operations in Australia.

E.2 Background to the ACCC's monitoring role

E.2.1 Legislative background

On 20 January 1999 the (then) 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, Burnie, Fremantle, Melbourne and Sydney.⁷⁵ A copy of the ministerial instrument is in appendix F. The PSA has since been repealed, with the prices surveillance provisions 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. Previously, the Prices Surveillance Authority monitored stevedoring prices and costs from March 1991 to November 1995. Relevant sections of Part VIIA are reproduced in appendix G.

In performing its price monitoring function, the ACCC must, under subsection 95G(7) of the CCA, 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.
- 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.

E.2.2 Reasons for ACCC monitoring

The ACCC's monitoring program began following the (then) Australian Government's decision in 1998 to support reform of the Australian waterfront.

As part of the reform strategy, the government provided funds to ensure that all stevedoring employees made redundant as part of the reform process received full redundancy entitlements. A levy on the loading and unloading of cargo was applied in order for the stevedores to repay the funds. The levy ceased at the end of May 2006 with the repayment of the government funding.

The ACCC's monitoring program provides information to the government and wider community about the development of Australia's container stevedoring industry.

⁷⁵ In 2011-12 and 2012-13, the ACCC's monitoring program recorded no container stevedoring activity in Burnie because Patrick advised the ACCC that it, as the sole stevedore at that port, had closed its operations in May 2011.

E.3 Description of methodology

E.3.1 Monitoring data

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. The ACCC does not collect data on actual prices charged for stevedoring services as these are negotiated privately between stevedores and users. Instead, unit revenues are used as indicators of average stevedoring charges.

Individual company data have been aggregated to obtain national average revenue, costs and margins, expressed on a per unit basis. Units are expressed in terms of the size of the container boxes. There are typically two container sizes, 20-foot (one 20-foot equivalent unit (TEU)) and 40-foot (two TEUs). Stevedoring charges are normally calculated per lift and are not generally differentiated in terms of container size. As such, the per TEU rate will typically be lower for 40-foot containers than for 20-foot containers. This means that the expected mix of 20-foot and 40-foot containers can be a significant factor for stevedoring companies when they are determining the actual per lift stevedoring rate to charge a shipping line. A trend towards 40-foot containers may contribute to a lowering of broad measures of average stevedoring revenue expressed per TEU.

The ACCC has been provided with information to enable separate calculations of revenue per TEU on both 20-foot and 40-foot containers.

The data on revenue and costs is provided for total terminal activities and for the stevedoring function only. Stevedoring revenue is defined as the revenue attributable to the loading and unloading of cargo. It includes any rebates offered by the container stevedores to shipping lines, as well as any penalties for non-performance imposed by the liner company on the stevedore. Most of the revenue generated by container terminals comes from stevedoring services. However, terminals may also conduct some break-bulk work (e.g. non-containerised cargo such as bags, crates, barrels) and provide other ancillary services related to the lifting of containers, such as storing and maintaining containers.

The former Prices Surveillance Authority conducted the initial monitoring function (1991 to 1995) using total revenue and cost data (including break-bulk revenue and costs) to derive national average revenue and cost indicators. To establish long-term trends, this report presents the results of the ACCC's recent monitoring program, as well as the Prices Surveillance Authority's monitoring program and data from its earlier public inquiry.⁷⁶

The ACCC has derived its data on average revenue and costs from the total revenue and expenses of the major container terminals in Australia, in a similar way to those in the Prices Surveillance Authority's reports.

E.3.2 Coverage of monitoring data

The container terminals included in the monitoring program are in Adelaide, Brisbane, Burnie, Fremantle, Melbourne and Sydney.

These terminals are:

- DP World Australia and Patrick, Swanson Dock, Melbourne
- DP World Australia, Patrick and Hutchison Ports Australia, Fisherman Islands, Brisbane
- DP World Australia, Patrick and Hutchison Ports Australia, Port Botany, Sydney

⁷⁶ In 1990, the Prices Surveillance Authority conducted a public inquiry into charges by the stevedoring and container depot industries.

- DP World Australia and Patrick, Fremantle
- Flinders Adelaide Container Terminal Pty Ltd,⁷⁷ Adelaide

Patrick closed its stevedoring operations at the Port of Burnie in May 2011, so therefore it recorded no volumes for this port in 2011–12 and 2012–13.

Some terminals were not included in the analysis because a substantial proportion of their revenue comes from non-container cargoes:

- Patrick's terminal at Darling Harbour in Sydney and Webb Dock in Melbourne
- DP World Australia's terminal at White Bay, Sydney.

In addition to using quantitative data provided by the stevedores, the ACCC sought other information through informal contacts with stevedoring companies. Where relevant, this information has been taken into account when assessing the results of the monitoring program.

E.4 Measures of industry profitability

One way of examining industry operating performance is to assess industry profitability. Different measures of industry profitability are appropriate depending on the perspective from which performance is assessed. Where performance is assessed from a perspective of returns on assets employed in producing a good or service, rates of return on operating (or tangible) assets are relevant. Alternatively, rates of return measures including both operating and non-operating (e.g. intangible) assets are more appropriate where performance is assessed from the perspective of the opportunity cost of capital invested in a business.

As noted in section 3.5, the ACCC considers that the most appropriate measure of industry profitability is the EBITA on the average value (of opening and closing balances) of tangible assets.

E.4.1 Treatment of intangible assets

The ACCC excludes intangibles (which, for stevedoring, includes mostly goodwill and berth licensing agreements) from the industry's asset base when assessing operating performance. Although the recognition of intangible assets is permissible under the Australian equivalent of the International Financial Reporting Standards (AIFRS), it does not necessarily follow that this is appropriate for monitoring purposes. This is because of concerns that such intangibles may reflect an expectation at the time of purchase or acquisition of assets for a business to earn economic rents, which may obscure changes in the profitability of providing services.

The ACCC's approach to exclude intangible assets will create a difference between the stevedore's statutory and regulatory reports. However, such divergences are not unusual where prices oversight of infrastructure services is involved and is consistent with the ACCC's approach in other industries (e.g. airport services, reserved mail services).

E.4.2 Consistency in asset valuation over time

One limitation of this approach is that the return on assets is affected by changes in asset values arising from asset revaluations, transfers or sales. Some businesses use different asset valuation methods, depending on the type of assets. Reported asset values may vary significantly for a given business over time, which reduces comparability. This raises issues for

⁷⁷ On 2 July 2012, Flinders Ports announced that it had acquired 60 per cent of the Adelaide Container Terminal business from DP World South Australia. Three years prior, Flinders Ports had acquired a 40 per cent stake in the business. The full ownership of the Flinders Adelaide Container Terminal by Flinders Ports took effect immediately.

monitoring purposes, where consistency in reporting over time assists with meaningful analysis. The ACCC has not attempted to evaluate the appropriateness of stevedores' asset valuations, which would be necessary if prices were regulated. However, it does require, for monitoring purposes, stevedores to report asset values on a consistent basis over time so that the ACCC can assess trends in the profitability of operating the stevedoring terminals.

For monitoring periods up to 2006–07, the asset values supplied by the Australian stevedores to the ACCC were valued on a consistent basis—on a depreciated historical cost basis. The ACCC has previously used this asset information to approximate changes in the value of the industry's asset base with investments in container terminals over that time. It represents an effective, relatively low-cost tool to examine changes in operating profitability.

However, as reported in the ACCC's 2007 monitoring report, data supplied by Patrick to the ACCC's 2006–07 monitoring program showed an abnormally large increase in reported asset values between 30 June 2006 and 30 June 2007. Additional information obtained by the ACCC at that time indicated that the higher closing balance asset values were affected by the accounting treatment of the acquisition of Patrick by Toll in 2006 and the subsequent purchase of the Patrick business by Asciano Ltd from Toll prior to 30 June 2007. The increase in the asset values reported by Patrick to the ACCC between 30 June 2006 and 30 June 2007 reflected the allocation of the purchase price of Patrick across the company's asset base, including for identifiable intangible assets (primarily goodwill).

According to Asciano's published financial statements for the period ending 30 June 2013, the carrying amount of goodwill allocated to Patrick's container ports was \$1.5 billion, which represented 66 per cent of the total value of Patrick's assets for the Terminals and Logistics business segment. While this accords with relevant accounting standards, it represents a material change to the basis on which the Patrick assets were previously valued (i.e. prior to 30 June 2007).

The contribution of goodwill to the total value of Patrick's assets held by Asciano in 2012–13 (of 66 per cent) is significantly above the proportion of goodwill held by the ASX companies listed on the Industrials Index. For the S&P/ASX 200 Industrials Index, goodwill represented 14 per cent of total assets in 2012–13.

Therefore it was necessary for the ACCC to adjust the opening balance of assets employed by Patrick as at 1 July 2006 to exclude the effect of the acquisition by Toll. The result of this adjustment is that Patrick's asset base remained valued on a basis consistent with previous years for the ACCC's monitoring purposes.

In 2006–07, it was not necessary for the ACCC to adjust the value of assets employed by DP World Australia following DP World Australia's acquisition of P&O Ports in 2006. This is because these assets continued to be valued on a basis consistent with previous years. In effect, the goodwill associated with the P&O acquisition was not allocated to the assets employed data previously supplied to the ACCC.

In March 2011, Citi Infrastructure acquired a 75 per cent interest in DP World Australia (the remaining 25 per cent continues to be held by DP World). The ACCC understands that the purchase price paid by Citi Infrastructure recognises the value of intangible assets comprising goodwill and long-term berth licenses. The ACCC understands that such licenses were not previously recognised as assets prior to changes in corporate ownership. For consistency with the approach taken with Patrick, the ACCC requires asset values to be reported on a consistent basis over time and considers that asset valuations that arise from changes in corporate ownership that potentially recognise capitalisation of future economic rents should be excluded.

While asset revaluations are permitted under international accounting standards, for the purposes of the ACCC's monitoring program, it was necessary for the ACCC to continue to exclude the effect of any upward revaluations made in the 12 months to June 2013. The asset information provided by the stevedores for the period ending 30 June 2013 reflected the

opening value of tangible assets as at 30 June 2012, plus additions to assets, less depreciation expenses and disposal of assets and write-downs of tangible assets that occurred in the 12 months to 30 June 2013.

E.4.3 Comparisons involving Australian stevedoring and other relevant industries

One way of assessing whether or not the level of returns in Australian stevedoring are consistent with returns that would be expected to occur in competitive industries is to compare them with appropriate benchmarks.

The 2012–13 monitoring program is the first year that the ACCC used the S&P/ASX 200 Industrials Index to compare the profitability of the stevedoring industry with other infrastructure businesses. As noted in section 3.5 the S&P/ASX 200 Industrials Index represents a subset of publicly listed companies in Australia's industrial sector and includes infrastructure and transport companies. The ACCC considers this index provides a better comparator than all the top 200 companies listed on the ASX (which the ACCC has included as a broad comparator in previous monitoring reports).

It should be noted however, that although the S&P/ASX 200 Industrials Index separately reports the value of tangible assets and total assets (which removes the value of intangible assets from each company's asset base), the index does not disclose data on asset revaluations of the individual companies in the index.

The results of the ACCC's benchmark analysis should be used as a broad comparator when assessing the level of returns available in Australian stevedoring with other industries. Because the ACCC considers that differences due to revaluations would not be material, broad comparisons of the level of returns available in Australian stevedoring with other industries are still relevant.

The use of the S&P/ASX 200 Industrials Index

The S&P/ASX 200 Industrials Index is published by the ASX and the ACCC sources company information through Bloomberg.

The S&P/ASX 200 Industrials Index includes companies whose businesses are dominated by one of the following activities: the manufacture and distribution of capital goods, including aerospace & defence, construction, engineering & building products, electrical equipment and industrial machinery; or, the provision of commercial services and supplies, including printing, employment, environmental and office services; or, the provision of transportation services, including airlines, couriers, marine, road & rail and transportation infrastructure.

For the period ending 30 June 2013, there were 34 ASX 200 companies listed in the Industrials Index. Among the companies included were:

- Asciano Ltd
- Aurizon Holdings Ltd
- Brambles Ltd
- Mermaid Marine Australia Ltd
- Qantas Airways Ltd
- Qube Holdings Ltd
- Sydney Airport

- Transurban Group
- Toll Holdings Ltd
- Transpacific Industries Group Ltd
- Transfield Services Ltd
- Virgin Australia Holdings Ltd

F Ministerial direction

COMMONWEALTH OF AUSTRALIA

Prices Surveillance Act 1983

DIRECTION NO 17

- (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) In this direction, 'container terminal operator company' means a provider of container stevedoring services in ports at the locations listed in paragraph (1).
- (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

G Part VIIA, Competition and Consumer Act 2010

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.

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