Port Performance and Ownership

An assessment of the evidence

Report to the Local Government Forum

9 August 2010

About NZIER

The New Zealand Institute of Economic Research (NZIER) is a specialist consulting firm that uses applied economic research and analysis to provide a wide range of strategic advice to clients in the public and private sectors, throughout New Zealand and Australia, and further afield.

NZIER is also known for its long-established *Quarterly Survey of Business Opinion* and *Quarterly Predictions*.

Our aim is to be the premier centre of applied economic research in New Zealand. We pride ourselves on our reputation for independence and delivering quality analysis in the right form, and at the right time, for our clients. We ensure quality through teamwork on individual projects, critical review at internal seminars, and by peer review at various stages through a project by a senior staff member otherwise not involved in the project.

Acknowledgements

We are grateful to Julian Bevis, Don Braid, Mark Cairns, Greg Dwyer, Owen Glenn, Alan Jenkins, Roger Kerr, Paul McKay, Barrie Saunders and David Trebeck who used their valuable time to provide us with comments on earlier drafts of the report. Preparation of the report has been funded by the Local Government Forum with assistance from NZIER's internal research funds. The Local Government Forum is a consortium of industry organisations interested in the improvement of local government performance. NZIER's profits are used to fund economic research for the benefit of New Zealand. Responsibility for the views, opinions and conclusions contained in this report rests entirely with NZIER.

Authorship

Prepared by: Brent Layton

Quality approved by: Johannah Branson

Version: Final v2

8 Halswell St, Thorndon
P O Box 3479, Wellington
Tel: +64 4 472 1880
Fax: +64 4 472 1211
econ@nzier.org.nz
www.nzier.org.nz

Executive summary

The OECD and the 2025 Taskforce, together with some private commentators, have recently highlighted the high level of local authority ownership among New Zealand ports and suggested that this is a barrier to port rationalisation and may be leading to inefficient investment in ports for parochial reasons. In this report we review the available evidence relating to these and other criticisms that have been made about port performance and the effects of local authority ownership in recent years.

We conclude that some of the accusations are supported by the available evidence:

- local authority ownership has militated against the rationalisation of port activities in New Zealand and the introduction of experienced international operators into the management of ports
- most New Zealand ports have considerable scope to improve the quality of their services and efficiency, and there is evidence that their relative performance has declined in recent years, at least when compared with major Australian ports, and
- there is some evidence that Ports of Auckland, and possibly Lyttelton Port Company, have in recent times succumbed to local pressures to retain and grow the volume of trade through their port by agreeing to provide international shipping lines with levels of service at charges such that the services may not make a full economic return.

With regard to the last point, our analysis of the economic returns of port companies shows that since corporatisation in the late 1980s, all but one of them has made a positive economic return in aggregate and the four major container ports have made very substantial economic returns.

Auckland Regional Holdings, the 100% shareholder of Ports of Auckland, obviously believes returns are inadequate to justify investment and that rationalisation of ports is essential, and it is promoting these ideas among other ports and presumably among politicians and others involved in developing policy. Our analysis, however, reveals that there is no inadequacy of returns to cover the costs of capital over the period as a whole, when these are measured correctly. Any concern should be focused on relatively recent developments, and specific situations involving particular ports.

Several other claims are not supported by the available evidence, or the evidence is equivocal:

- the ratio of capital expenditure to depreciation does not support the contention that port companies have been engaged in manifestly excessive levels of capital expenditure given the growth in container trade they have experienced
- where it has happened, the direct or indirect involvement of local body politicians in labour negotiations on the side of the unions would not have assisted port companies in their labour negotiations; whether it stopped or delayed

improvements in labour productivity is unclear because it is not certain that, in the specific circumstances, the improvements would have been achieved if there had been no interference, and

- there is no clear evidence that local authority ownership has led port companies to exercise what market power they possess over some trades more than they would have done if they had been privately owned; indeed, political ownership may have lead to a bias towards inefficiently low prices instead of inefficiently high ones.

On the basis of the review, we conclude that the general policy problem is not to increase the returns to investors in port companies by, for example, encouraging rationalisation so they have more strength in negotiations with shipping lines. The problem is how to ensure that New Zealand ports become more efficient in their operations and competitive and commercial in their pricing without increasing their capacity to use what market power they may possess.

We put forward four policy options to encourage improvements in efficiency and more competitive and commercial pricing:

- impose increased information disclosure requirements upon port companies
- require contestability in the provision of container stevedoring at the major ports where it is physically feasible and would enhance efficiency
- where multiple container stevedores are not practicable, require major port companies to become landlords of their container terminals and periodically tender the right to provide stevedoring services at their port and
- require local authorities to divest their shares in port companies to reduce the extent to which parochial interests inhibit the introduction of more efficient operational procedures and efficiency-improving rationalisations between ports.

An evaluation of the costs and benefits of these policy options is beyond the scope of this report but should be carried out before any policy changes are introduced.

Contents

Appendices

Figures

Tables

1. Introduction

The OECD, in its 2009 biennial survey of the New Zealand economy, highlighted the importance of maritime exports and imports to New Zealand and argued that anything that hampers maritime trade is likely to be a significant constraint on the country's economic performance.[1] The OECD went on to note:

> *In New Zealand, ports are largely owned by local authorities, which may have objectives, often political ones, other than maximising the long-term return on assets. … Moreover, local-government ownership leads to infrastructure duplication and a lack of co-ordination in decision-making. Ports say consolidation is needed to reduce these problems and enhance their negotiating position vis-à-vis ever stronger international shipping conglomerates, which enjoy an exemption from domestic competition laws.*[2]

More recently, in its first report, the 2025 Taskforce echoed the OECD's concerns. It argued that in only one or two ports "is there any effective market-based discipline on the use of capital in the port sector".[3] According to the Taskforce, the consequence is that the economic return on capital appears to have been well below what would normally be expected from port assets that are run fully commercially, with a resulting loss in New Zealand's income. Furthermore, and according to the Taskforce as importantly, "local authority ownership tends to militate against the sort of consolidation and evolution of the port model in New Zealand that would be likely to occur with freely traded capital and majority private sector ownership".[4]

Similar views have been expressed by Rockpoint, a New Zealand-based specialist advisor and merchant banker to the port sector. In its 2010 review of the New Zealand sector it states:

> *Ports are seen as enablers of regional economic activity, and provide welcome dividends to local councils. However, the regional ownership focus is now considered to be the major impediment to port consolidation, despite a widely acknowledged commercial rationale for mergers.*[5]

---

[1] OECD*, Economic Survey: New Zealand*, 2009, p.61.

[2] Ibid., p.62.

[3] 2025 Taskforce, *Answering the $64,000 question: Closing the Income Gap with Australia by 2025: First Report and Recommendations*, November 2009, p.109.

[4] Ibid., pp.109-10.

[5] Rockpoint Corporate Finance Ltd, *New Zealand Port Sector Report*, 2010, p.10.

> *In a truly competitive market falling profitability would quell capital expenditure. That this has not happened suggests that port investment may also be driven by non-commercial factors (parochial demands) rather than defined commercial objectives, …*[6]

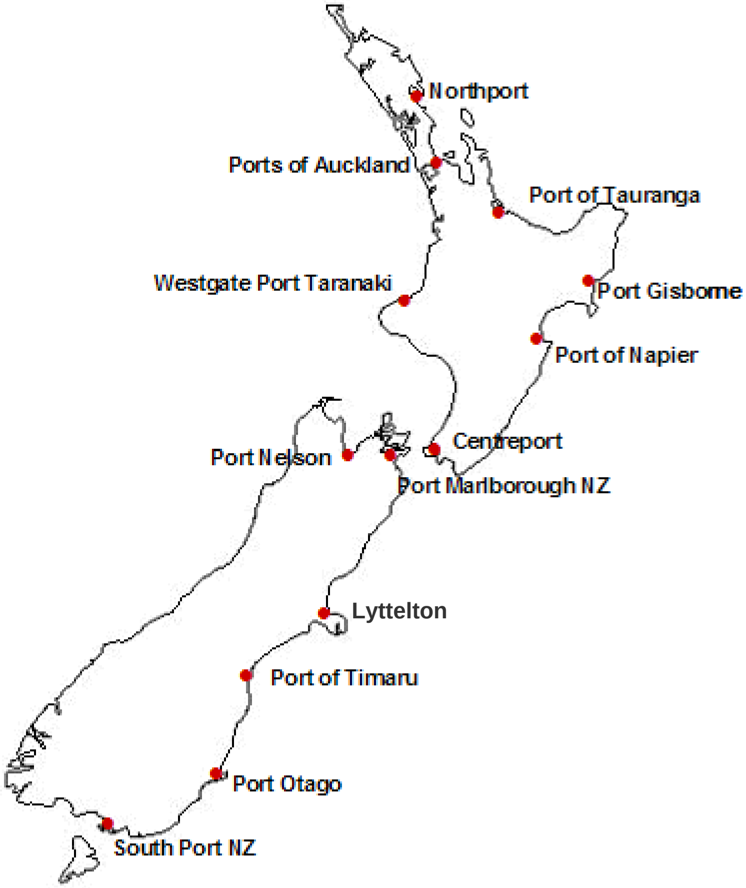
We start this report by describing, in section 2, the current operation, ownership and regulation of ports, as background to our analysis. In section 3, we outline various claims about the impact of local authority control on port operating and capital expenditure efficiencies. We also scrutinise the available evidence to gauge the extent to which it supports or contradicts these accusations. The evidence we have been able to obtain is not always as comprehensive and rigorous as we would like, but we believe the general conclusions we reach are supported by the available information and data. We conclude by discussing the policy options available to address the problems arising from current port ownership that the evidence suggests are material.

[6] Ibid., p.13,

2. Background

2.1 Importance of ports

New Zealand has 13 commercial seaport operations – seven in the North Island and six in the South Island. There are in addition a number of smaller harbour facilities at various locations around the country which serve mainly local fishing and recreational vessels. In this report we focus on the commercial ports. These collectively handle, by value, 84.9% of total exports and 78.9% of total imports and account for over 99.5% of the total volume of New Zealand's internationally traded goods.[7]



2.2 Port reform

From the nineteenth century, ports were owned and operated by locally based harbour boards. These had a mix of commercial and non-commercial objectives. In their commercial activities, harbour boards were not seen to be primarily profit-making investors in infrastructure in their own right. They were seen more as the providers of essential infrastructure to facilitate other local economic activities and as promoters of local economic development and employment.

[7] Statistics New Zealand, *Overseas Cargo Statistics*, *June 2007*. The series was discontinued in 2007.

In the late 1980s, as part of a much wider reform of the New Zealand economy, the government passed legislation to reform the port sector. As a result:

- independent port companies acquired the commercial assets of the harbour boards
- the non-commercial assets of harbour boards, such as recreational jetties, were transferred to territorial local authorities
- the regulatory functions of harbour boards, such as the enforcement of by-laws limiting speeds and the functions of a harbour master, were transferred to regional or unitary councils, although in some instances these organisations contracted the local port company to carry out some or all of these functions
- the National Ports Authority, which had been the central planning body responsible for approving harbour board investment proposals, was abolished, and
- the Waterfront Industry Commission, which had been responsible for the employment of most waterfront workers, was abolished.

The port companies became fully responsible for the operation of the commercial ports they took over. This included employment of labour, investment decision making and setting of prices and charges for customers. They also determined the range of services provided.

2.3 Port ownership and control

Ownership of the shares in the port companies was vested in most instances in the local regional or unitary council. For Lyttelton and Timaru, however, because both these "competing" ports lie within the boundaries of the Canterbury Regional Council (Environment Canterbury), their shares were vested in the region's territorial local authorities to avoid the two ports having the same shareholders. Initially, the legislation provided for only partial privatisation and private ownership was limited to 49%. The legislation was amended by the Labour Government in 1990 to remove the restriction on full privatisation.

During the 1990s, six of the commercial ports were partially privatised and five of these – Northland Port Corporation, Ports of Auckland, Port of Tauranga, Lyttelton Port Company and Southport – were listed on the New Zealand Stock Exchange. PrimePort Timaru was partially privatised but not listed.

Subsequently, in 2005, as the result of a takeover offer, Ports of Auckland became 100% owned by Auckland Regional Holdings Ltd, an entity owned and controlled by the Auckland Regional Council. As Ports of Auckland owns 20% of Northland Port Corporation, this also increased the effective local authority stake in this company and its 50% owned subsidiary, Northport. The latter, which is 50% owned by Port of Tauranga, operates a recently constructed general and bulk cargo facility at Marsden

Point and now operates the port activities formerly managed by Northland Port Corporation.[8]

In addition, the local authority shareholding of Lyttelton Port Company increased in 2006 as a result of a takeover offer by Christchurch City Holdings Ltd, an entity owned and controlled by the Christchurch City Council, and by Port Otago buying on market a 15.5% stake to block the sale of Lyttelton Port Company's business operations to a joint venture controlled by Hutchison, a Hong Kong-based port operator. In late 2009, Christchurch City Holdings increased its stake to 78.8% by buying more shares on market.

Since reform in the 1980s, all commercial ports have remained majority controlled by one or more local authorities. The Port of Tauranga has the largest percentage of private ownership with just under 55% of shares held by the Bay of Plenty Regional Council through Quayside Holdings Ltd. Most of the minor ports have remained 100% local government-controlled since they were established.

[8] See http://www.northport.co.nz/

Table 1 Ownership of New Zealand's commercial ports

Port	Location	Council ownership	Other port ownership	Private ownership
Northland Port Corporation (NZ) Limited	Owns Whangarei	Northland Regional Council (53.61%)	Ports of Auckland (19.90%)	26.49%
NorthPort Limited	Whangarei and Marsden Point		Northland (50%) and Port of Tauranga (50%)	
Ports of Auckland Limited	Auckland and Onehunga	Auckland Regional Holdings Limited (Auckland Regional Council) (100%)		
Port of Tauranga Limited	Tauranga	Quayside Securities Limited (Bay of Plenty Regional Council) (54.98%)		45.02%
Eastland Port Limited	Gisborne	Eastland Group Limited (Gisborne District Council) (100%)		
Port Taranaki Limited	New Plymouth	Taranaki Regional Council (100%)		
Port of Napier Limited	Napier	Hawkes Bay Regional Council (92%); Horizons (formerly Manawatu Wanganui Regional Council) (8%)		
CentrePort Limited	Wellington	Port Investments Limited (Greater Wellington Regional Council) (76.9%); Horizons (formerly Manawatu Wanganui Regional Council) (23.1%)		
Port Nelson Limited	Nelson	Nelson City Council (50%); Tasman District Council (50%)		
Port Marlborough New Zealand Limited	Marlborough Sounds	MDC Holdings Limited (Marlborough District Council) (100%)		
Lyttelton Port Company Limited	Lyttelton	Christchurch City Holdings Limited (Christchurch City Council (78.78%)	Port Otago Limited (15.48%)	5.74%
PrimePort Timaru Limited	Timaru	Timaru District Holdings Limited (Timaru District Council) (72%)		28%
Port Otago Limited	Port Chalmers and Dunedin	Otago Regional Council (100%)		
South Port New Zealand Limited	Bluff	Southland Regional Council (66.48%)		33.52%

Source: NZIER, port company annual reports.

2.4 Port business models

According to the industry specific legislation under which they were established and operate, the principal objective of every port company is to "operate as a successful business".[9] The legislation is not, however, helpful in defining exactly what this means, although presumably it requires, as a minimum, the company to be financially viable in the long term. In practice, New Zealand port companies vary slightly in the business models they have adopted.

There are three basic business models for ports:

- landlord ports – the port company owns the core port infrastructure of land and wharves, while equipment (cranes, forklifts and reefer connections[10]), marine services (pilotage, towage and mooring) and cargo handling services are provided by private independent operators
- mixed ports – the port company provides the infrastructure and also provides operational port services in competition with private service providers, and
- full-service ports – the port company owns and exclusively operates the full spectrum of port activities, including the provision of port infrastructure, equipment and operational services, and directly hires all labour to perform the port activities.

Most New Zealand commercial ports sit somewhere between mixed and full-service ports; most own and operate most of the assets and provide:

- cargo services (receiving and delivery, marshalling, general and container stevedoring)
- infrastructure (channels, breakwaters, navigation aids, berths, terminals, etc., storage sheds, office space and equipment)
- marine services (pilotage, towage and mooring), and
- other services (ship rubbish and waste removal, container cleaning, ship water, etc.).

Other operators compete with port companies in some aspects of the business. Competing providers are most common for general stevedoring of ships other than container ships, but pilotage and marshalling are other areas where there is some competition in some ports. Port of Tauranga is the only port where competing stevedores operate in the container area.[11]

Eastland Port in Gisborne is the New Zealand port company that operates most closely to the landlord port business model. Virtually all activities in this port are undertaken by independent contractors.

---

9 Port Companies Act 1988, s.5.

10 A reefer is a refrigerated shipping container and a reefer connection is the stand to connect reefers to a power supply to maintain the operation of the refrigeration unit when in the container terminal.

11 Rockpoint, op cit., p.71.

Australian ports are predominantly landlord ports. Marine services, cargo handling and receiving and delivery are performed by independent commercial companies. Usually a single private sector provider, or the port company itself, provides pilotage, towage and mooring. For container stevedoring there are, however, two private national-level providers – Patricks and DPWorld (formerly P&O Ports). These both operate in competition with one another at most major ports in areas set aside for them. They provide their own equipment and labour.

2.5 Port companies' regulatory regime

2.5.1 Port Companies Act 1988

As we have already noted, the principal objective of port companies is set by legislation. It is to "operate as a successful business". To improve accountability and transparency, the directors of each port company are required to deliver to its shareholders and to make public a draft statement of corporate intent (SCI) within one month after the commencement of each financial year.[12] The draft is required to cover the current and next two financial years and to provide details of policies and expected performance.[13] Directors are required to consider any comments made by shareholders before finalising the statement within three months of the start of the financial year.[14] The SCI must be made available to the public within one month of adoption or delivered to the shareholders.[15] Shareholders are able to require the directors to amend an SCI.[16] Directors have to report six monthly to shareholders and the Minister of Transport in accordance with the requirements of the SCI.[17] If a port company is listed on a stock exchange, however, it is no longer required to prepare an SCI.[18] Moreover, the Minister of Transport is able to over-ride the requirement to prepare an SCI for port companies with any private shareholdings.[19]

Also to improve accountability and transparency, the directors have to report to shareholders and the Minister of Transport on the operations of the port company and its subsidiaries during the financial year. The report must contain the audited consolidated financial statements for the year, including statements of financial position, profit and loss and cash flows. It also has to "contain such information as is necessary to enable an informed assessment of the operation of the port company and its subsidiaries."[20]

[12] Port Companies Act 1988, s.8.

[13] Port Companies Act 1988, s. 9.

[14] Port Companies Act 1988, s.10.

[15] Port Companies Act 1988, s. 12.

[16] Port Companies Act 1988, s. 11(2).

[17] Port Companies Act 1988, ss.16(1) & (2).

[18] Port Companies Act 1988, s. 13.

[19] Port Companies Act 1988, s. 14.

[20] Port Companies Act 1988, ss. 16(3) & (4).

The Act also places restrictions on who can be directors of port companies. The number of directors is required to be no fewer than six and the number of directors who are employees or members of local authorities that own shares in the company cannot be more than two.[21] The purpose of this provision is to restrict the ability of local authority shareholders to appoint their employees or members to make up the majority of the board of a port company. In practice, however, all port company directors are appointed by local authority shareholders and can be removed by the same shareholders.

Under the Local Government Act 2002, a port company or a subsidiary of a port company within the meaning of the Act that is controlled by a local authority is not a council-controlled organisation.[22] It is, therefore, not subject to the various governance-related provisions in Part 5 of the Local Government Act 2002; the governance provisions in the Port Companies Act 1988 that we have already discussed apply instead.

2.5.2 Commerce Act 1986

The Commerce Act 1986 is the primary statute relating to competition in New Zealand. The purpose of the Act is "to promote competition in markets for the long-term benefit of consumers within New Zealand".[23] Sections 27 and 36, plus the provisions contained in Part 4, are all potentially relevant to the operation of ports, particularly their pricing behaviour. The provisions of section 47 and Part 5 are relevant to mergers and acquisitions involving port companies.

a) Section 27

Section 27 provides that no person shall enter into or give effect to a contract or arrangement, or arrive at an understanding, containing a provision that has the purpose, or has or is likely to have the effect, of substantially lessening competition in a market.

b) Section 36

Section 36(2) states that:

> *A person that has a substantial degree of power in a market must not take advantage of that power for the purpose of—*
>
> *(a) restricting the entry of a person into that or any other market; or*
>
> *(b) preventing or deterring a person from engaging in competitive conduct in that or any other market; or*
>
> *(c) eliminating a person from that or any other market.*

[21] Port Companies Act 1988, s. 6(1).

[22] Local Government Act 2002, s.6(4)(c) & (d).

[23] Commerce Act 1986, s. 1A.

c) Part 4

Part 4 of the Commerce Act 1986 “provides for the regulation of the price and quality of goods or services in markets where there is little or no competition and little or no likelihood of a substantial increase in competition”. The outputs of major international airports, gas pipeline businesses and electricity lines businesses are regulated under Part 4, but the services provided by port companies are not.

A port service could, however, become subject to the provisions in Part 4 following an inquiry by the Commerce Commission undertaken on its own initiative or at the request of the Minister of Commerce.[24] If, after undertaking the inquiry, the Commission is of the opinion that the service is supplied in a market where there is both little or no competition and little or no likelihood of a substantial increase in competition, and there is scope for the exercise of substantial market power in relation to the service, it can recommend to the Minister of Commerce that the port service should be regulated. A further requirement before the Commission issues such a recommendation is that it must be satisfied the benefits of regulating the service materially exceed the costs of regulation.[25]

If the Commission believes a price or quality should be regulated, it can also recommend to the Minister the type of regulation to which the price or quality should be subject. In doing so, it has to choose from among the menu of regulatory options provided in Part 4: information disclosure; negotiate/arbitrate; default/customised price-quality regulation; and individual price-quality regulation.[26] If the Minister is also of the opinion that the price or quality should be regulated, the Governor-General may, by order in council on the recommendation of the Minister, impose regulations.[27]

d) Section 47 and Part 5

The merger of port companies is also subject to the provisions of the Commerce Act 1986. Section 47(1) provides that “a person must not acquire assets of a business or shares if the acquisition would have, or would be likely to have, the effect of substantially lessening competition in a market”. The Commission is, however, able to provide a clearance or authorisation for a merger if it is satisfied that the acquisition will not have, or would not be likely to have, the effect of substantially lessening competition in a market. It is also permitted to provide an authorisation even if it thinks competition may be substantially lessened in a market, provided it believes the acquisition likely to result in such a benefit to the public that it should be permitted.[28] The effect of the Commission granting a clearance or authorisation for a merger is that sections 27 and 47 of the Commerce Act do not apply.[29]

[24] Commerce Act 1986, s. 52H.

[25] Commerce Act 1986, s.52G.

[26] Commerce Act 1986, s.52K.

[27] Commerce Act 1986, ss. 52L – 52N.

[28] Commerce Act 1986, ss. 66 & 67.

[29] Commerce Act 1986, s.69.

2.5.3 Other regulations applying to port companies

a) Companies Act 1993

Port companies are registered like all other companies under the Companies Act 1993 and so are subject to its provisions. These include the requirement that, except in certain specified circumstances, a director of a company, when exercising powers or performing duties, must act in good faith and in what the director believes to be the best interests of the company.[30] It also includes the ability of a majority of the shareholders to remove a director from office at a general meeting called with this purpose by a notice indicating this purpose, unless the company's constitution provides otherwise.[31]

b) Resource Management Act 1991

The operations of port companies are subject to the Resource Management Act 1991. Ports require consents for discharges to air, water and ground that are not permitted activities under the local district scheme and consents are granted only when the activity complies with the requirements of the Act. Ports can be noisy, smoky and dusty places and most New Zealand ports require regular maintenance dredging to retain a satisfactory channel depth and can require periodic capital dredging to cater for vessels of greater draft. Dredged material has to be dumped on land or at sea, which, together with the dredging, usually requires a resource consent. Moreover, in the past, ships routinely used anti-foulants and paints on their hulls which contained highly toxic chemicals and heavy metals, which have left residuals in some harbours. As a result, the conditions applying to consents to avoid, remedy or mitigate adverse effects on the environment impose, in some instances, quite considerable administrative and financial costs on ports.

The Resource Management Act 1991 is the principal hurdle any potential operator of a new port would have to surmount. That this legislation is administered by the local regional council, which may also be the sole or major shareholder in any established port in the region, will not mean this barrier can be raised artificially high to protect the established facilities. A council confronted with a proposal to establish a port that will compete with one it owns will appoint independent commissioners to hear the applications for resource consents.

c) Other

Ports are subject to a wide range of other regulatory controls. The more significant of these are labour employment laws, health and safety legislation, regional council by-laws relating to the use of harbours and biosecurity legislation on the disposal of ships' waste.

Listed ports are subject to the listing rules of the New Zealand Exchange (NZX). These specify matters such as the requirement to continuously disclose information

[30] Companies Act 1993, s. 131(1).

[31] Companies Act 1993, s. 156.

to the market. and place restrictions on voting rights on material transactions involving related parties.[32]

[32] NZX Listing Rules can be found at: http://static.nzx.stuff.co.nz/legacy/NZSX_Rules.pdf

3. Alleged impact of local authority control

A wide range of criticisms have been levelled at the control of ports by local authorities, but broadly these amount to claims that local authority control undermines the efficiency of the ports compared with what could be expected if ports were controlled by private shareholders and investors.

As no New Zealand ports are controlled by private shareholders and investors, the obvious and straightforward means of testing these arguments – comparing the performance of local authority controlled ports with private investor controlled ports – is not possible, even if data on port performance were readily available. Instead, we consider each criticism and the limited relevant evidence in detail to assess the validity of each in turn.

3.1 Stalled efficiency improvements?

Significant improvements in the efficiencies of port operations occurred in the first 10 years or so after port companies were established. Ship turnaround times dropped, loading rates rose, truck waiting times fell and labour productivity increased. These improvements were achieved in part through using the provisions of the Employment Contracts Act 1991 (ECA) and earlier waterfront labour reforms to alter the terms and conditions of employees. They were also partly due to more efficient use of plant and equipment and a greater focus on commercial performance, resulting from the port companies having a more commercial objective than the harbour boards that preceded them.

There is concern in some quarters, however, that the improvement in efficiency of port operations has slowed and may have even reversed in some areas of operation in some ports. It is claimed that, as a result, the efficiency of New Zealand ports is now increasingly lagging behind that achieved in some other countries and does not reflect best practice internationally. Concerned parties point to the replacement of the ECA with the Employment Relations Act 2000 and its amendments. The new legislation has encouraged union membership and involvement in workplaces, including ports. According to some, this has made it more difficult to change conditions, especially for entities with local government shareholders who have non-commercial objectives and members who may be sympathetic to union aspirations.

3.1.1 The Australian Productivity Commission study

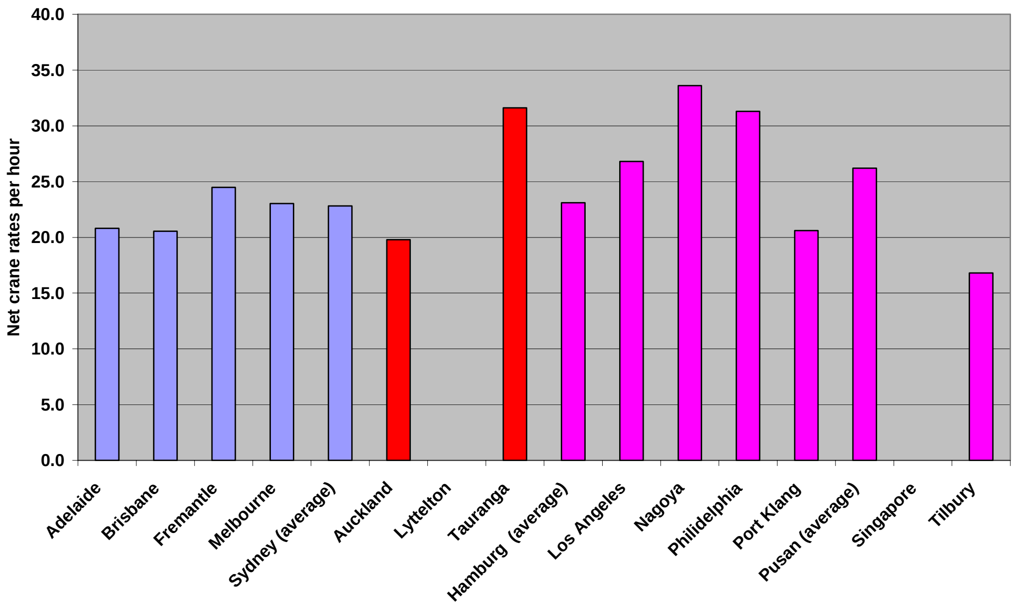
When it undertook a study of container stevedoring productivity in 2002, the Australian Productivity Commission found that, of the major New Zealand container ports its study covered, Tauranga rated reasonably highly in terms of net crane rate per hour[33] compared with Australian and other overseas ports.[34] However, it found

[33] The net crane rate is the total number of containers handled divided by the elapsed crane time. The elapsed crane time is the allocated crane time less time lost in operational and non-operational hold-ups. The gross crane rate is the total number of containers handled divided by the time the ship is alongside the wharf.

Auckland to be below average on this measure. As can be seen from Figure 1, the five Australian ports and Auckland reported net crane rates below a number of other ports for which the Australian Productivity Commission provided data.

Figure 1 Net crane rates per hour 2002

Net crane rate per hour



Source: Australian Productivity Commission, *International Benchmarking of Container Stevedoring*, 2003.

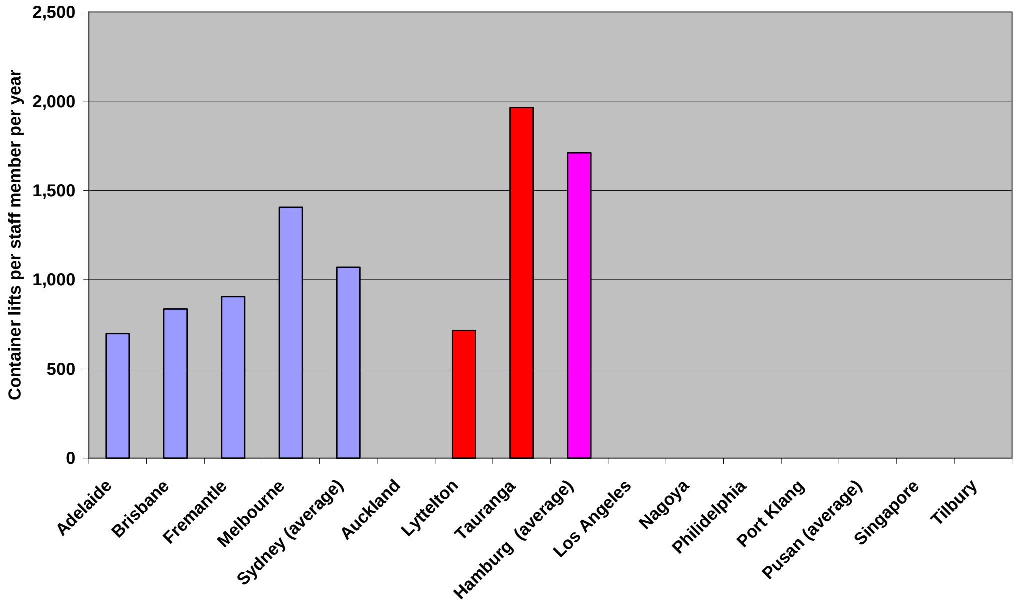
In relation to other measures of productivity reported in this study, the picture for New Zealand's key container ports is mixed. Tauranga had exceptionally high labour productivity, but Lyttelton had the worst of all the ports on which data were reported. Moreover, the three New Zealand ports covered had low straddle carrier productivity but moderate container crane productivity.

If the data reported in the Australian Productivity Commission's study are accepted uncritically, the general picture that emerges is that in 2002 New Zealand's three major container ports were not particularly efficient in all aspects when compared with the best in the world. Although Tauranga had a high net crane rate, and one significantly above those of the five Australian ports and Auckland, and relatively high labour productivity, its productivity per crane and per straddle carrier were not exceptional. Auckland and Lyttelton do not stand out positively on any of the productivity measures, and in terms of labour productivity, Lyttelton is significantly less than 50% of the level of the best performers. This is somewhat contrary to the popular view that by the early years of this century, as a result of reform, New Zealand ports were very efficient by international standards.

[34] Australian Productivity Commission, *International Benchmarking of Container Stevedoring*, 2003. Missing data in Figures 1 to 4 indicate that the Australian Productivity Commission study does not provide data for the variable for this port.

Figure 2 Container labour productivity 2002

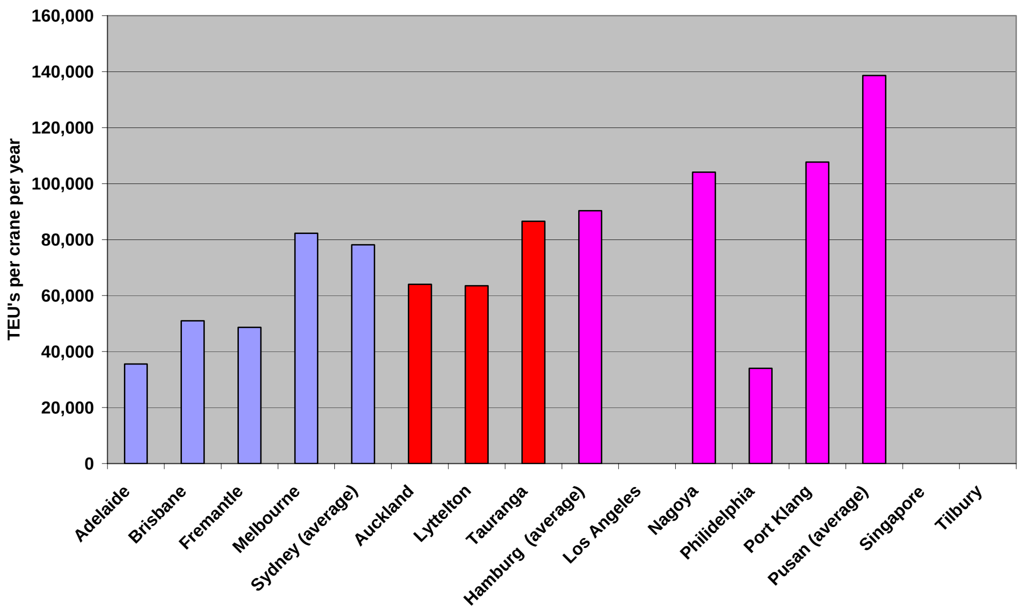
Container lifts per staff member per year



Source: Australian Productivity Commission, *International Benchmarking of Container Stevedoring*, 2003.

Figure 3 Container crane productivity 2002

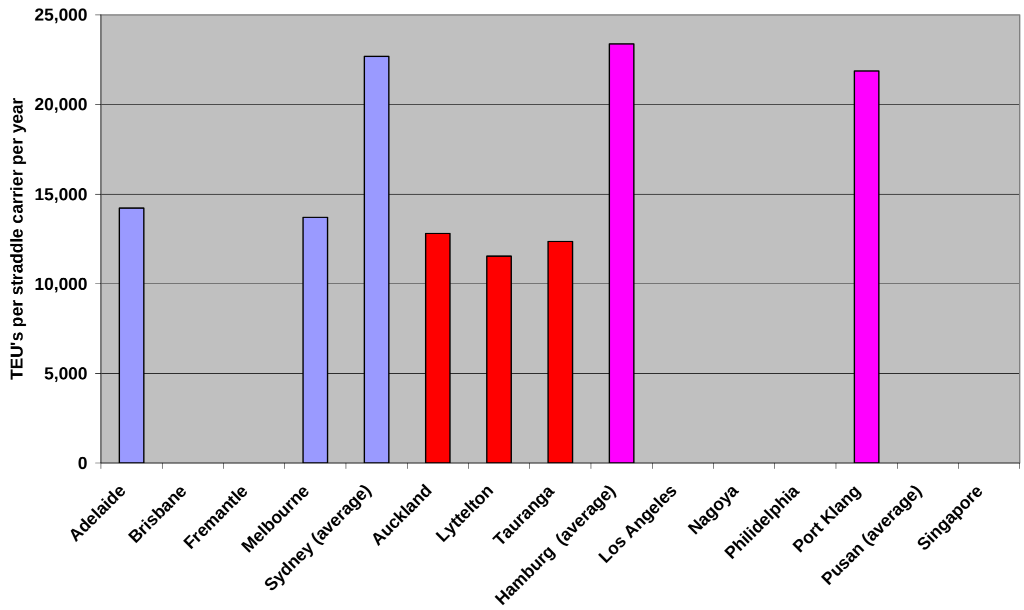
Container lifts per crane per year



Source: Australian Productivity Commission, *International Benchmarking of Container Stevedoring*, 2003.

Figure 4 Container straddle carrier productivity 2002

Containers per straddle carrier per year



Source: Australian Productivity Commission, *International Benchmarking of Container Stevedoring*, 2003.

3.1.2 Australasian net crane rates

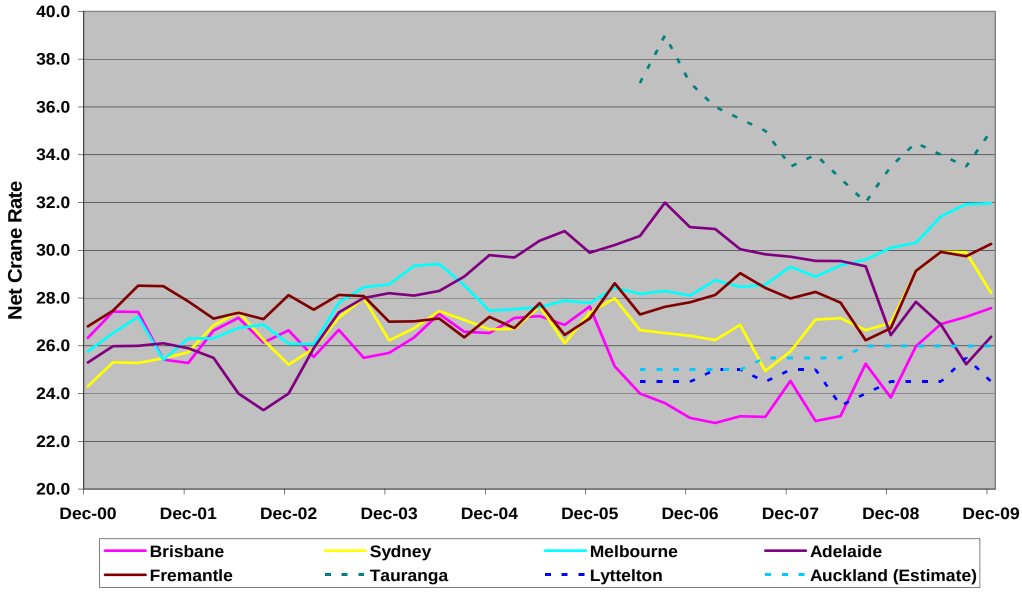
Since the early 1990s, the Australian Bureau of Infrastructure, Transport and Regional Economics (BITRE) and its predecessor have collected and published quarterly a wide range of performance statistics relating to Australia's five major container ports – Sydney, Melbourne, Brisbane, Adelaide and Fremantle.[35] The published statistics include net crane rates. Rockpoint has recently published net crane rates for the three major New Zealand container ports covering the quarters from June 2006 until December 2009.[36] Figure 5 reproduces the time series of the available data for Australian and New Zealand container ports for the quarters from June 2000 to December 2009. The volume weighted average net crane rates for the five Australian and three New Zealand ports are contained in Figure 6. Trendlines have been fitted to these averages using ordinary least squares regression analysis to help bring out the underlying trends in the two countries.

[35] See http://www.bitre.gov.au/Info.aspx?NodeId=166

[36] Rockpoint, op cit., p.82. Its figures for Ports of Auckland are an estimate because the port has not participated in the survey upon which Rockpoint base the data. Shipping informants believe it is a generous estimate.

Figure 5 Net crane rates for major Australasian container ports 2000 to 2009

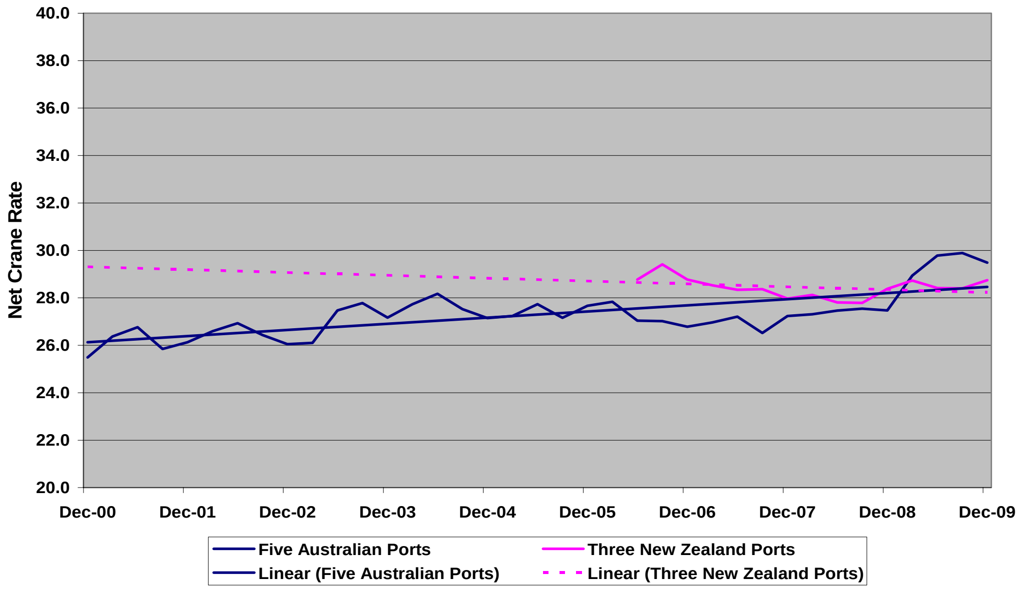
Net crane rates per hour



Source: Australian Bureau of Infrastructure, Transport and Regional Economics and Rockpoint.

Figure 6 Average net crane rates for major ports in Australia and New Zealand 2000 to 2009

Volume weighted average net crane rates per hour



Source: Calculated by NZIER from data published by Australian Bureau of Infrastructure, Transport and Regional Economics and Rockpoint.

Net crane rate is the productivity measure most commonly applied by container ports to themselves.[37] On the basis of this measure, the data suggest that:

- Tauranga has a high net crane rate compared with other major Australasian ports but its rate has trended downwards in recent years
- Lyttelton and Auckland have relatively low net crane rates compared with most major Australian ports and have experienced little improvement in the measure of productivity since at least 2006
- the volume weighted average net crane rate for the five major Australian ports has trended upwards over the period since at least 2000
- the volume weighted average net crane rate for the three major New Zealand container ports has trended downwards over the period since at least 2006, and
- in mid-2006 the average New Zealand net crane rate for the three major ports was 6.4% higher than the average net crane rate for the major Australian ports; by December 2009 the Australian average was 2.6% higher than the New Zealand rate.

These data are consistent with there having been a deterioration in the relative performance of New Zealand container ports compared with Australian ports in recent years. There is other evidence that is consistent with there having been a relative decline

3.1.3 World Economic Forum's Global Competitiveness Index

The first piece of evidence is contained in the detailed data behind the World Economic Forum's Global Competitiveness Index (GCI).[38] The GCI is compiled annually on the basis of publicly available data and an executive opinion survey conducted in all the countries covered by the survey. There are 12 components that make up the index. The second component relates to the adequacy and efficiency of infrastructure and one of the elements of this component is the quality of port infrastructure. In 2005, New Zealand was ranked 18th but by 2008 had slipped to 22nd in terms of this criterion. Of course, port infrastructure is not the same thing as port efficiency, but it seems very likely that when responding to this question in the survey, executives would be strongly influenced not just by the physical assets that are available, but also the quality and efficiency of the services their organisations receive from local ports.

3.1.4 World Bank's Logistics Performance Index

The second piece of evidence is similar. In 2007 and 2010 the World Bank undertook major surveys of people engaged in the logistics industry and used the information it obtained to compile a Logistics Performance Index (LPI) for a large number of

[37] Shipping lines prefer the gross crane rate or the ship rate on the grounds they better reflect what is relevant to them. The ship rate is the aggregate number of container movements on and off a ship per hour for the time the ship is alongside without any adjustment for the number of cranes working the ship simultaneously.

[38] http://www.weforum.org/en/initiatives/gcp/Global%20Competitiveness%20Report/index.htm

countries, including New Zealand.[39] The following table compares the rankings and scores for New Zealand and Australia in the 2007 and 2010 reports. New Zealand's rank dropped two places on the LPI, from 19th to 21st, between 2007 and 2010 and its raw LPI score fell from 3.75 to 3.65 (out of a maximum of 5.0). Most of the more affluent OECD countries, plus Singapore, ranked above New Zealand in both surveys. New Zealand's rankings and scores relating to customs and timeliness – which are also likely to be significantly influenced by Customs' performance – rose. Its rankings and scores relating to the other factors – infrastructure, shipping access, tracking and tracing, and logistics quality – all declined and in two instances declined substantially. These are the factors most likely to reflect the performance of New Zealand ports. Between the two surveys, Australia's ranking declined one place from 17th to 18th but its raw LPI score rose marginally from 3.79 to 3.84. Moreover, Australia's ranking and score increased on all major components of the LPI but one (tracking and tracing).

Table 2 Logistic Performance Index (LPI) scores 2007 and 2010

		New Zealand			Australia		
		2007	2010	Change	2007	2010	Change
LPI	Rank	19	21	-2	17	18	-1
	Score	3.75	3.65	-0.1	3.79	3.84	0.05
Customs	Rank	18	16	2	17	14	3
	Score	3.57	3.64	0.07	3.58	3.68	0.10
Infrastructure	Rank	22	26	-4	20	18	2
	Score	3.61	3.54	-0.07	3.65	3.78	0.13
Shipping	Rank	10	23	-13	12	3	9
	Score	3.77	3.36	-0.41	3.72	3.78	0.06
Logistical quality	Rank	16	26	-10	18	17	1
	Score	3.82	3.54	-0.28	3.76	3.77	0.01
Tracking	Rank	19	25	-6	13	20	-7
	Score	3.68	3.67	-0.01	3.97	3.87	-0.10
Timeliness	Rank	22	17	5	20	18	2
	Score	4.05	4.17	0.12	4.10	4.16	0.06

Source: Calculated by NZIER from World Bank, *Connecting to Compete*, 2007 and 2010.

It would be very desirable to have more comprehensive measures of New Zealand container port productivity and performance, as well as data relating directly to non-container trade productivity, but although the evidence is limited, what we have uncovered is consistent with New Zealand's ports ranking towards the bottom end of the ports of developed economies, at a similar ranking to the country's GDP relative to the GDPs of developed economies.

This conclusion may surprise some commentators who believe port reform brought significant improvements in the performance of New Zealand ports. This conclusion

[39] World Bank, *Connecting to Compete*, 2007 and 2010, http://siteresources.worldbank.org/INTTLF/Resources/LPI2010_for_web.pdf

does not contradict that reform brought improvement. Other countries also undertook port reforms in the 1980s and 1990s and in many cases made more radical changes to port ownership and governance. It is the relative improvement in performance of New Zealand ports that we are questioning, not their absolute performance. The evidence is also consistent with some deterioration in the relative performance of New Zealand ports in recent years, including compared with Australian ports.

3.2 Inhibited rationalisation

As we have already noted, the OECD,[40] the 2025 Taskforce[41] and Rockpoint[42] have all recently claimed that local authority control has militated against the merger and rationalisation of ports. The reasoning is that local body politicians are reluctant to face public criticism in their electorates that they are responsible for economic activities and jobs moving to another region, even if this improves overall economic efficiency. According to this argument, political control has resulted in failure to capture the gains in efficiency of operations and reductions in duplication of capital equipment that would have been brought by the merger and rationalisation of ports.

Since the port companies were formed, none has merged. Nor have any of the commercial ports ceased to operate or significantly rationalised their activities by fundamentally reducing the range or type of services they provide. There have been a number of proposals to merge over the last 15 years or so, but so far none has been implemented. The two most publicly discussed have involved Ports of Auckland and Port of Tauranga and Port Otago and Lyttelton Port Company.

3.2.1 Auckland and Tauranga

The Auckland-Tauranga merger was proposed by Auckland and thoroughly investigated by the two parties for over a year. In March 2007, Tauranga announced it had withdrawn from discussions. Tauranga's Chair attributed its withdrawal to "Auckland Regional Holdings, the owners of Ports of Auckland had been unable to decide whether the merger was worth undertaking, or the terms on which they would be prepared to pursue a merger".[43] Tauranga's Chief Executive claimed "economic and financial modelling demonstrated a merger would generate significant financial benefits to be shared with customers and shareholders".[44]

The Tauranga Chief Executive, importantly, identified substantial public benefits from a merger – reduced carbon dioxide emissions, better opportunities for coastal shipping and "making a start on the inevitable port rationalisation in this country in the future with the advent of larger, faster container ships".

---

[40] OECD, *Economic Survey: New Zealand*, 2009, p.62.

[41] 2025 Taskforce, *Answering the $64,000 question: Closing the Income Gap with Australia by 2025: First Report and Recommendations*, November 2009, pp.109-10.

[42] Rockpoint, *New Zealand Port Sector Report, 2010*, p.10.

[43] http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10431643

[44] Loc.cit.

Any merger between Auckland and Tauranga is likely to substantially lessen competition in at least some of the markets in which the two port companies currently operate. It would therefore require an authorisation from the Commerce Commission. To grant an authorisation, the Commission would need to be satisfied that the net public benefits are positive, despite the reduction in competition the merger would cause. The proposed Auckland-Tauranga merger did not stumble on regulatory barriers, however, as the question of whether an authorisation would be granted was never tested. Clearly, Auckland interests did not think regulatory approval was an insurmountable barrier when it proposed the merger and Tauranga's Board did not think it was a stumbling block when it called off discussions as it made it clear it was willing to re-open talks if Auckland's shareholders reached some resolution.

Nor is the inability of Auckland Regional Holdings to agree merger terms for discussion with Tauranga likely to be because it failed to see any significant economic and financial advantages from merger of the ports. Auckland Regional Holdings has subsequently shown itself to be particularly keen on the benefits of port rationalisation. In October 2009, it produced a report entitled *Long-term Optimisation of the New Zealand Port Sector.* This was an appeal for container port traffic to be rationalised around a couple of hubs in the North Island (Auckland and Tauranga) and a couple of hubs in the South Island (Lyttelton and Otago) with each pair of ports co-operating to co-ordinate their trade flows.

The Auckland Regional Holdings report argues that "currently, the structure of the NZ port sector is neither efficient nor sustainable – the nation's future international competitiveness is under threat" and goes on to list as the potential benefits of port rationalisation:[45]

- efficient capital investment
- sustainable long-term returns to enable future investment
- sufficient capacity to handle future freight growth
- reverse New Zealand's loss of international competitiveness
- more efficient supply chain, and
- minimise carbon emissions.

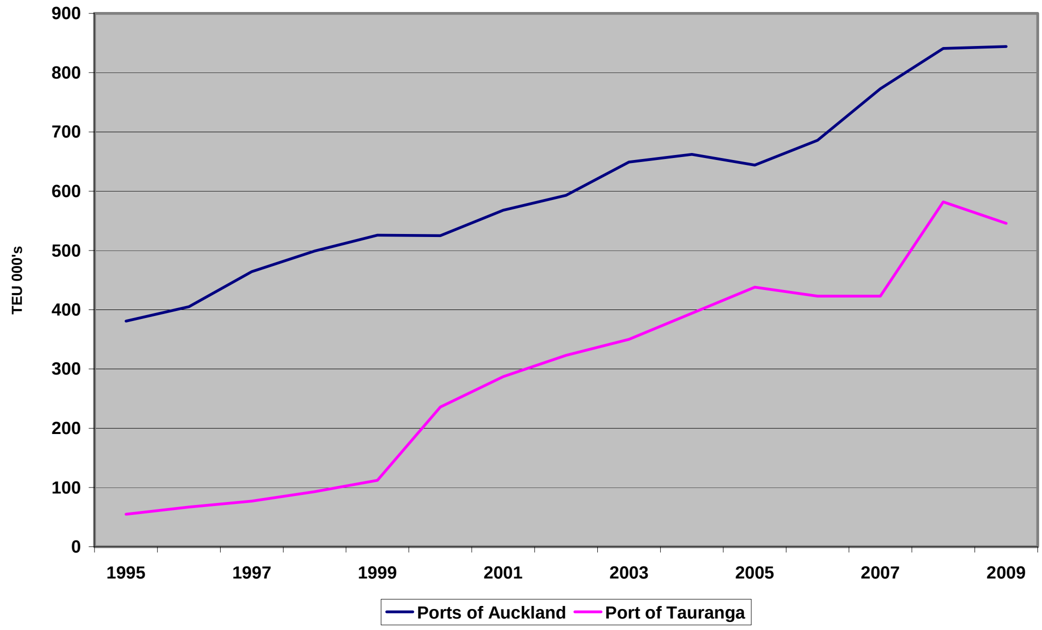
That the merger was not pursued for political reasons is clear from the press reports at the time. A month after the two ports publicly announced they were investigating the possibility of a merger, Maersk, the major provider of container shipping services to New Zealand, announced it would, in future, use Auckland rather than Tauranga as its main North Island port. A spokesperson for the political body controlling the owner of Ports of Auckland, greeted the news by commenting that it meant the Auckland company should have a majority stake in any merger.

[45] Auckland Regional Holdings, *Long-term Optimisation of the New Zealand Port Sector*, October 2009, p.3.

Tauranga quickly found a large shipping line, Hamburg Sud, willing to shift from using Auckland to using Tauranga to service the cargo formerly catered for by Maersk. A short time later, another major container shipping line shifted its focus of port calls from Auckland to Tauranga. Thus, the decision of Maersk had less effect on the allocation of cargo between Tauranga and Auckland than if there had been no response from other shipping lines.

Figure 7 Container volumes at Auckland and Tauranga 1995 to 2009

Thousands of TEUs (twenty-foot equivalent units)



Source: Calculated by NZIER from annual reports.

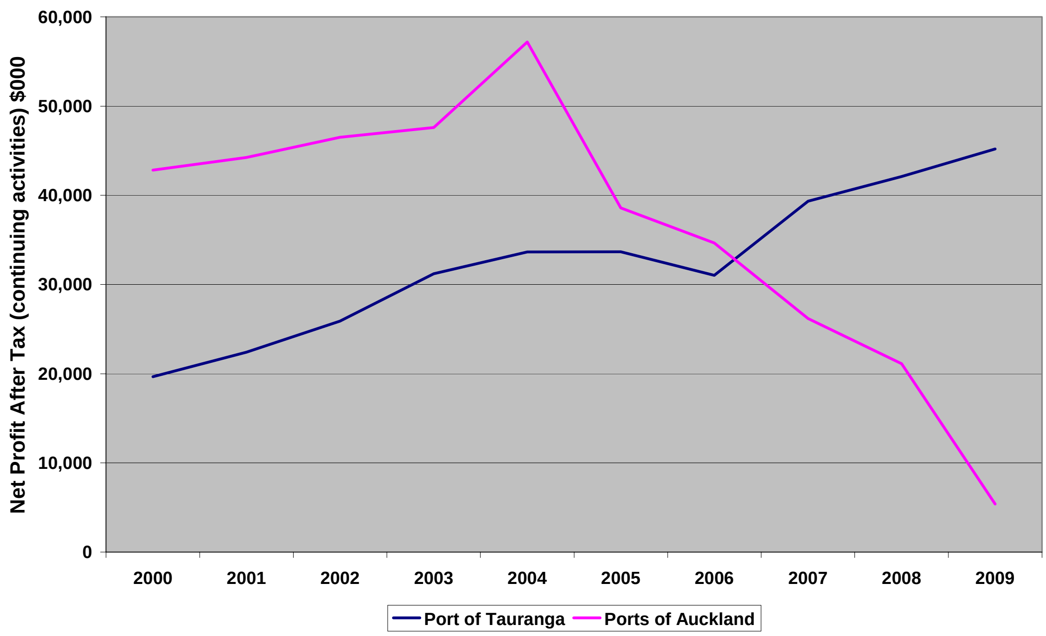
On the other hand, Maersk undoubtedly extracted significant discounts from Auckland to secure its business. Its standard business practice is to play off competing ports aggressively against one another in terms of price and the facilities they provide, such as fixed berth slots and equipment for loading and unloading. It cannot be criticised for its approach; it is operating in a very competitive market and needs to have as cost competitive a port service as it can find and negotiate. As Figure 8 shows, Port of Tauranga's net profit after tax for continuing activities has been significantly better than Ports of Auckland's since the Maersk decision in 2006.[46]

It is extremely unlikely, therefore, that the commercial realities of the Maersk decision supported any change in the relative values of Tauranga and Auckland to the significant favour of Auckland. Indeed, the evidence suggests the impact was probably exactly opposite to this. In view of Auckland interests having publicly stated they would benefit, it is not surprising that the Auckland Regional Council struggled to

[46] It is not possible for us to isolate the financial effects of the deal with Maersk on the returns of Ports of Auckland and other factors may have contributed to the recent decline in profitability, but we believe the correlation suggests the Maersk deal has been a significant contributor.

reach a decision on the merger deal, or even on the basis on which it would pursue such a deal.

Figure 8 Net profit after tax (for continuing activities) at Auckland and Tauranga 2000 to 2009



Source: Calculated by NZIER from annual reports.

3.2.2 Otago and Lyttelton

Discussions between Otago and Lyttelton about an operational merger of their activities began in late 2007[47] and are still in progress.[48] The companies received an independent report in late 2009 and have also received a review of the report. Neither document has been made public.

According to the companies, as at early February 2010, the decision on whether a merger will proceed was in the hands of their shareholders and the Commerce Commission.[49] This means that the Boards of the two companies had concluded that there are sufficient financial and economic benefits to both companies from merging their operations. It also means that the Boards believe the public benefits of the merger are sufficiently high that there is a basis for arguing the Commission should authorise the merger, even though it would clearly result in a substantial lessening of competition in at least some of the markets in which the two companies operate.

To date, no application for authorisation (or clearance) has been notified on the Commission's website. The implication is that the shareholders have not made a

[47] http://www.keepourportpublic.org/?p=42

[48] http://business.scoop.co.nz/2010/02/19/lyttelton-otago-ports-extend-merger-talks/

[49] Loc. cit.

decision after five months of deliberation. The length of time over which the shareholders have been considering this possibility strongly suggests the difficulties in reaching a decision are political. It is not plausible that evaluating the commercial sense, or folly, of such a decision could take such an extended period of time given that the Boards of the port companies themselves have done enough analysis to reach a commercial conclusion.

3.2.3 Lyttelton and Hutchison

Rumours of merger discussions involving Lyttelton and Auckland, PrimePort Timaru and South Port, have circulated at various times in the past 10 years, but the seriousness of any discussions which may have been held has never been disclosed. In March 2006, however, Christchurch City Holdings Ltd, the council's vehicle for holding its investments including its Lyttelton Port Company shares, made a takeover bid for the 35% of shares it did not already own at that time.

It was announced at the time that this was the first step in a proposal for the council to gain at least a 90% holding in the port company, to acquire compulsorily the balance of the shares, to de-list the shares from the stock exchange, and to split the company into an asset owning company, over which the council would retain control, and a port operation company, a controlling stake in which would be sold to Hutchison Port Holdings Ltd. Hutchison is a Hong Kong-based company and the world's biggest port operator.[50]

At the time the announcement was made, the council publicly stated it believed the re-arrangement "will give Lyttelton Port better bargaining power with shipping lines, better operating efficiencies and other benefits".[51] The proposed transaction met a hostile reception from some Christchurch residents; a protest group called "Keep Our Port Public" was established. It successfully solicited pledges not to sell the port, and other community-owned assets, during the 2007 local body election campaign.[52]

Port Otago Ltd purchased on market 15.5% of the shares in Lyttelton, which stymied the Christchurch City Council gaining control of the 90% or greater holding it required to force minority shareholders to sell to it. The move by Otago has been credited with stifling the overall proposal and the sale of the operating company to an entity controlled by Hutchison.

The council did not, however, need to buy out the minorities before the company de-listed from the stock exchange, although it would have been an unpopular move with the minorities if it had forced de-listing. If the company was not listed, the restrictions in the stock exchange's listing rules on related parties voting on proposals would not have applied and the council could have consummated the proposed transactions with Hutchison by special resolution, passed by a 75% majority of shareholders. It

[50] www.nzherald.co.nz/lyttelton-port-company-td/news/article.cfm?o_id=105&objectid=10373615

[51] Loc. cit.

[52] http://www.keepourportpublic.org/?p=42

seems likely that a private sector investor less susceptible to public opposition to the sale of assets and complaints about de-listing by minority shareholders would have pushed through the proposed reorganisation, even if this required some change in the directors of the company. In other words, it seems likely that the proposal and subsequent rationalisation did not proceed because of the political sensitivities resulting from local authority ownership of the company.

3.3 Bargaining strength with container shipping lines

Another claim of the OECD[53] and the 2025 Taskforce[54] is that local authority control has weakened the bargaining strength of port company boards and managers when negotiating terms and conditions of port usage with international container shipping lines. Presumably, the reasoning is that this is because they are vulnerable to pressure, including threats of removal of services, from local politicians keen to maintain local economic activity and employment, irrespective of the costs in terms of the return on investment achieved by the port.

The claim is that, as a result, port companies have agreed to provide international shipping lines with levels of service relative to the charges levied on them such that the services do not make a full economic return, including a return of and on capital. To the extent this claim is correct, the action of port companies is to the detriment of New Zealand's overall income.

3.3.1 Bargaining strength of container shipping lines

It is clear from the structure, conduct and performance of the market that the major container shipping lines have significant bargaining strength in their dealings with many port companies and this bargaining strength has been increasing in recent years. There are several factors at play which contribute to this strength.

First, New Zealand has a large number of container ports for the size of the country and economy and the physical distance between them is not great. In consequence, there is some overlap in their economic catchment areas which gives rise to competition for container cargo, especially between Ports of Auckland and Port of Tauranga, between CentrePort and Port of Napier, between Lyttelton Port Company, PrimePort Timaru and Port Otago, and between Port Otago and South Port.

Second, there are typically significant economies of scale over the likely operating range for most container ports, so the average cost of handling a container is significantly above the marginal cost. This means that the acquisition and retention of container volumes are important for the financial performances of ports.

Third, container ports are capital intensive and many of the capital assets have limited use and value in other activities and limited value on the second-hand market.

[53] OECD*, Economic Survey: New Zealand*, 2009, p.62.

[54] 2025 Taskforce, *Answering the $64,000 question: Closing the Income Gap with Australia by 2025: First Report and Recommendations*, November 2009, pp.109-10.

Some assets, such as dredged channels and pier areas, are virtually sunk in an economic sense; in many ports they are of limited value if the container trade should cease. This means the retention of existing container trade and acquisition of additional volume are important for the financial performance of ports and marginal cost pricing, as driven by competition, will not fully cover the capital costs of a port.

Fourth, container shipping lines do not usually provide long-term commitments to port companies even when the port companies are required to install capital equipment to service their needs. This, in part, reflects the absence of long-term commitments to shipping lines from many of the shippers of cargo. The consequence is that ports are vulnerable at almost any time to container shipping lines seeking to renegotiate charges down and/or the quality of service up by, for example, seeking preferential slots for berthing and access to equipment.

Fifth, through mergers and differential rates of growth, container shipping lines have become very much larger and trade is becoming increasingly concentrated in the hands of fewer shipping lines. In 1995, the largest container shipping line, Sealand (Maersk), had capacity of only 188,000 TEUs.[55] By January 2009, the 15 largest container lines all had capacity of more than 300,000 TEUs each. Nine of these 15 container lines have scheduled services to New Zealand. Maersk is the largest with capacity of 2,000,000 TEUs, followed by MSC (Mediterranean Shipping Company) with 1,500,000 TEUs.[56] In the case of Maersk, much of its growth has come through mergers with other European shipping lines, like P&O. On the other hand, MSC's growth has been entirely organic and not at all due to mergers.

In 2000, the top three container shipping lines had a combined market share of 22%. By 2009, this had climbed to 34%.[57]

[55] TEU = twenty foot equivalent, a method of measuring container capacity in terms of the number of 20-foot containers to which the capacity is equivalent.

[56] http://www.alphaliner.com/

[57] Loc.cit.

Table 3 Top 15 container lines 2009

Rank	Shipping line	Operating fleet size in TEUs
1	Maersk Line	2,000,000
2	MSC	1,500,000
3	CMA CGM Group	1,000,000
4	Evergreen Line	600,000
5	Hapag-Lloyd	500,000
6	COSCO Container Line	500,000
7	APL	500,000
8	CSCL	450,000
9	NYK	425,000
10	MOL (Mitsui OSK Line)	400,000
11	Hanjin/Senator	375,000
12	OOCL	375,000
13	K Line	350,000
14	Hamburg Sud Group	350,000
15	Yang Ming Line	340,000

Notes: Shading indicates lines with scheduled services to New Zealand.
Source: http://www.alphaliner.com/

Sixth, shipping lines are effectively exempt from the provisions of Part 2 of the Commerce Act when it comes to "a contract, or arrangement, or arriving at an understanding in so far as it contains a provision exclusively for the carriage of goods by sea from a place in New Zealand to a place outside New Zealand or from a place outside New Zealand to a place in New Zealand." [58] Although it is debatable whether this provision allows shipping lines to explicitly collude over the setting of New Zealand port charges, it clearly allows them to act together to coordinate their shipping services. This provides them with increased bargaining power relative to ports whose income is partly dependent on the number of ships visiting their ports. Port companies have no similar exemption from Part 2 of the Commerce Act. They are required to compete with one another and are precluded from colluding or using their market power to reduce competition.

Seventh, the proportion of New Zealand's trade carried in containers has increased markedly over the last 15 years or so, which has strengthened the negotiating position of the container shipping lines relative to the port companies as they now handle more of the trade. In 1995, New Zealand's total container volume amounted to approximately 650,000 TEUs and this represented only 15% of the total volume of trade by weight. By 2009, the number of containers had increased to approximately

[58] Commerce Act 1986, s. 44(2).

2,350,000 TEUs and this represented 38% of trade by weight. In value terms, the share of containers would be considerably higher as it is mainly the low value to weight cargoes such as timber, coal and fertiliser that are not containerised.

Table 4 Containerised and non-containerised cargoes by port 1995 and 2009

	1995					2009				
	TEUs 000s	Bulk Mt	TEUs Mt	Bulk Mt	Container Mt	TEUs 000s	Bulk Mt	TEUs Mt	Bulk Mt	Container Mt
NorthPort	0	1.30	0.00	100.00%	0.00%	0	1.60	0.00	100.00%	0.00%
Ports of Auckland	381	5.79	3.81	60.31%	39.69%	844	2.66	8.44	23.96%	76.04%
Port of Tauranga	55	6.85	0.55	92.57%	7.43%	546	8.04	5.46	59.56%	40.44%
Port Taranaki	0	4.80	0.00	100.00%	0.00%	63	2.87	0.63	82.00%	18.00%
Port of Napier	44	1.86	0.44	80.87%	19.13%	167	1.23	1.67	42.41%	57.59%
CentrePort	27	6.83	0.27	96.20%	3.80%	92	9.48	0.92	91.15%	8.85%
Port Nelson	11	1.69	0.11	93.89%	6.11%	82	1.98	0.82	70.71%	29.29%
Lyttelton Port Company	95	3.95	0.95	80.61%	19.39%	260	6.90	2.60	72.63%	27.37%
PrimePort Timaru	0	0.30	0.00	100.00%	0.00%	60	0.80	0.60	57.14%	42.86%
Port Otago	25	1.25	0.25	83.33%	16.67%	218	0.82	2.18	27.33%	72.67%
South Port	3	1.47	0.03	98.00%	2.00%	24	1.66	0.24	87.37%	12.63%
Total	641	36.09	6.41	84.92%	15.08%	2,356	38.04	23.56	61.75%	38.25%

Notes: NorthPort data exclude all shipments through Marsden Point.
Containers converted to tonnes using an average weight of 10 tonnes/container.
Source: Calculated by NZIER from annual reports.

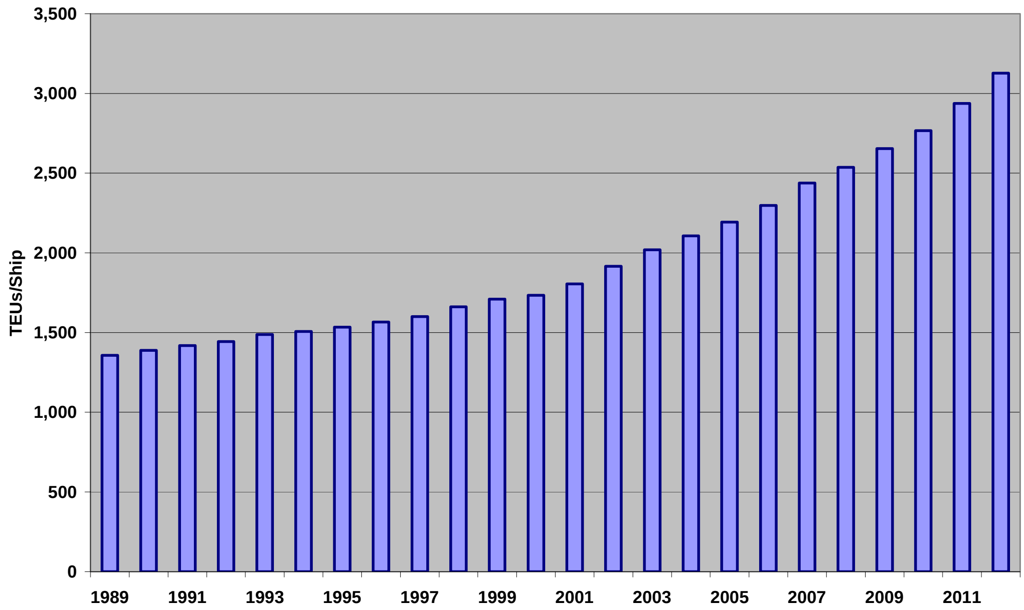
Finally, the typical size of the container ships operating in New Zealand has recently increased from around 3,000 TEUs to around 4,100 TEUs with suggestions that the next generation of ships will be in the 5,000 to 7,000 TEU range.[59] In 1988, the average container ship in the global fleet had a capacity of 1,303 TEUs. By 2009, this had increased to 2,654 TEUs and, on the basis of ships under construction and likely retirements, is projected to increase to 3,127 TEUs by 2012.[60] The larger the vessels, the fewer visits required for a given volume of cargo, the greater the pressure to provide more infrastructure to service arriving vessels and the greater the negotiating strength of the container shipping lines.

[59] Auckland Regional Holdings, op. cit., p.10.

[60] http://www.alphaliner.com/

Figure 9 Average container ship size in global fleet 1989 to 2012

TEUs per ship



Notes: Data for 2009 to 2012 are projections based on current ships on order and expected retirements.

Source: Calculated by NZIER from http://www.alphaliner.com/

3.3.2 Negotiation strategies of shipping lines

Maersk, which in January 2008 had 16.1% of world capacity[61] and has a very significant share of New Zealand's container trade,[62] has on two recent occasions conducted what it terms port reviews in New Zealand. These are effectively tenders among New Zealand port companies to secure inclusion of their port in the scheduled services operated by Maersk.

The port companies covered by a review are each invited to make Maersk an offer covering proposed charges for the range of services Maersk seeks and service commitments in terms of slots and equipment available that the port company is willing to make to secure Maersk's business. Maersk ensures that it is widely known through the media that it is undertaking a port review and which ports may be affected by the outcome. It also claims that it is looking to reduce the number of ports at which it will call in future.

The most highly publicised aspects of these Maersk port reviews have involved Auckland and Tauranga and the three east coast South Island ports – Lyttelton,

[61] Loc. cit.

[62] http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10398270

Timaru and Otago.[63] In the South Island in 2002/03, Maersk concentrated significant services from Lyttelton to Otago. It also added Timaru as a port of call for another of its services and shifted exports from Fonterra's factory at Clandeboye in South Canterbury to Timaru from Lyttelton. In 2008, Maersk reduced its services to PrimePort Timaru[64] and in 2009 Fonterra decided to return to exporting Clandeboye's output through Lyttelton.[65] In late 2006, following another review, Maersk decided to shift the focus of its northern North Island port of call from Tauranga to Auckland.

Some other shipping lines have also changed the ports at which they call. In some instances this has been in response to the opportunities presented by Maersk shifting its scheduled services following its reviews. Two container shipping lines that seem to specialise in building their business in this way are MSC and CMA CGM Group, both of which have been growing faster than Maersk on a global basis and gaining market share.[66]

When Maersk shifted port calls in the South Island as a result of its 2002 port review, MSC, the world's second largest line, very quickly responded to fill the vacuum. Indeed, although MSC is a family owned and controlled businesses and, as a result, is able to make decisions quickly, the response from MSC on this occasion was so quick that the only plausible explanation is that the management of Lyttelton had already arranged with MSC that it would "replace" Maersk should the latter depart. When Maersk shifted the focus of its northern port calls from Tauranga to Auckland in 2006, Hamburg Sud very quickly announced it would reschedule its services from Auckland to Tauranga to fill the gap. Subsequently, CMA CGM, the world's third largest container shipping line and another family owned and controlled business, followed suit and reorganised its schedules to make Tauranga rather than Auckland its main port of call.[67]

3.3.3 Bargaining strength of port companies

The port companies have their own bargaining strength for many trades, including for some container services. The choice for shippers is either to use the local port or to bear the costs of moving the goods to or from another more distant port. Their decision depends on the costs of local transportation by road, rail or coastal shipping compared with the costs of an international container ship visiting a number of ports in New Zealand, dropping off and collecting cargo from each. The country comprises two main islands, each with a difficult topography for efficient road and rail transport, coastal shipping is not well developed and suffers from high costs compared with international vessels because it has to use local labour, and the population density is

[63] http://findarticles.com/p/news-articles/timaru-herald/mi_8192/is_20060823/ports-await-maersk-review-outcome/ai_n51693769/ and http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10398270

[64] http://www.stuff.co.nz/timaru-herald/news/546115

[65] www.stuff.co.nz/timaru-herald/news/2769722/Jobs-to-go-at-Timaru-port-after-Fonterra-export-call

[66] http://www.alphaliner.com/

[67] www.nzherald.co.nz/ports-of-auckland-imited/news/article.cfm?o_id=158&objectid=10491326

low meaning economies of scale in transport are low. It is not surprising, therefore, that in the New Zealand context the cost structures have, until now, favoured many container ships moving around the coast.

There has long been suggestions that trade in container and other cargoes will become more concentrated in a few key ports in New Zealand – that hubbing will develop. The reality is that the reverse has actually occurred for the container trade and volumes in total; the trade has become less concentrated, not more.

The Herfindal-Hirschman Index (HHI) is a standard measure of market concentration used by economists.[68] We have used the data in Table 4 to calculate HHI values for the concentrations in 1995 and 2009 of container and non-container cargoes on New Zealand ports. In 1995, the HHI for the New Zealand container trade was 39.1%. By 2009, the HHI had nearly halved to 21.2%. The lower the score, the less concentrated the market and a score of 21.2% suggests a wide dispersion of activities among different participants. Over the same period, the HHI for non-container cargoes increased marginally from 13.6% to 15.9%, but remained a low level of market concentration.

3.3.4 Impact on port companies

When a container shipping line relocates its port calls, it typically takes some cargo with it, at least for a period. Usually, the cargo that shifts is the export volumes of the key export clients of the shipping line, such as Fonterra or meat exporters. The exports of these clients often underwrite the viability of the service for the line that moves, so they usually have or make arrangements to retain these cargoes.

When the port that loses a service is a significant one for the container trade, like Auckland, Tauranga, Lyttelton and Otago, there are usually alternative container shipping lines willing and able to move in to provide services.

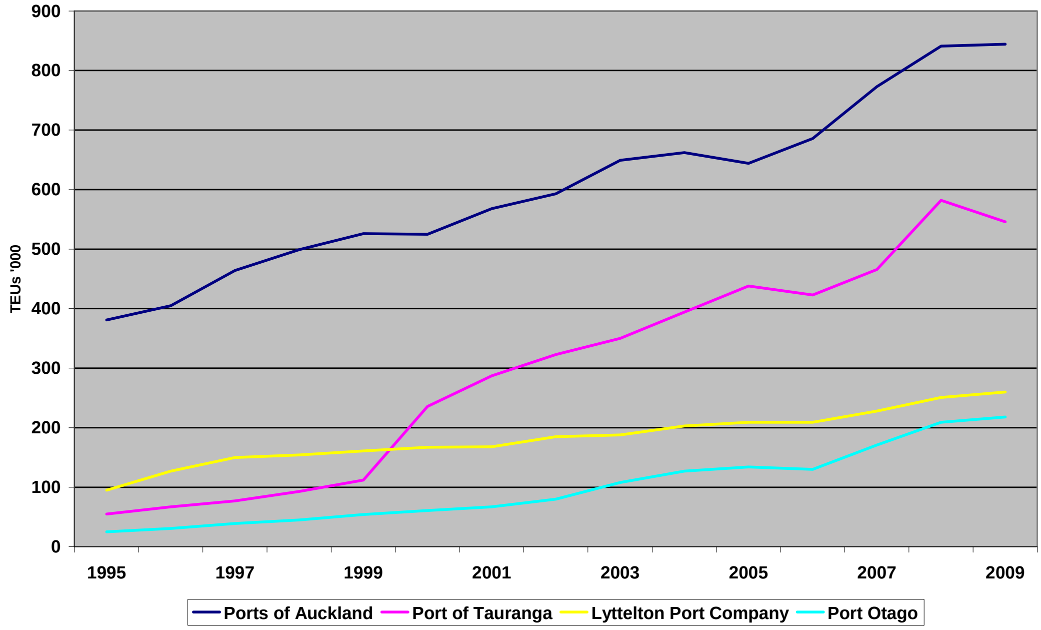
The consequence is that changing port calls usually has only a modest impact on the total container volumes through a major port. When a major port loses a container trade, it is possible the port company itself is financially better off than it would have been had it met the requirements of the departing container shipping line on price and service delivery. Local businesses using and servicing the port and the port company's employees are, however, worse off financially through any reduction in throughput of the port and diversion of cargo elsewhere that does occur.

On the other hand, the "winner" in these changes in shipping schedules may be worse off financially if the price concessions and the cost of facilities and services commitments it has made to secure the trade mean it will not earn an adequate return to fully cover its economic costs, including its costs of capital on these services. Of course, the local business community and employees of the port company will financially benefit from any diversion of trade towards the port.

[68] The HHI is the sum of the squares of market shares expressed as a ratio. Using the squares gives extra weight to entities with a large share.

Figure 10 Container volumes at major ports 1995 to 2009

TEUs, thousands



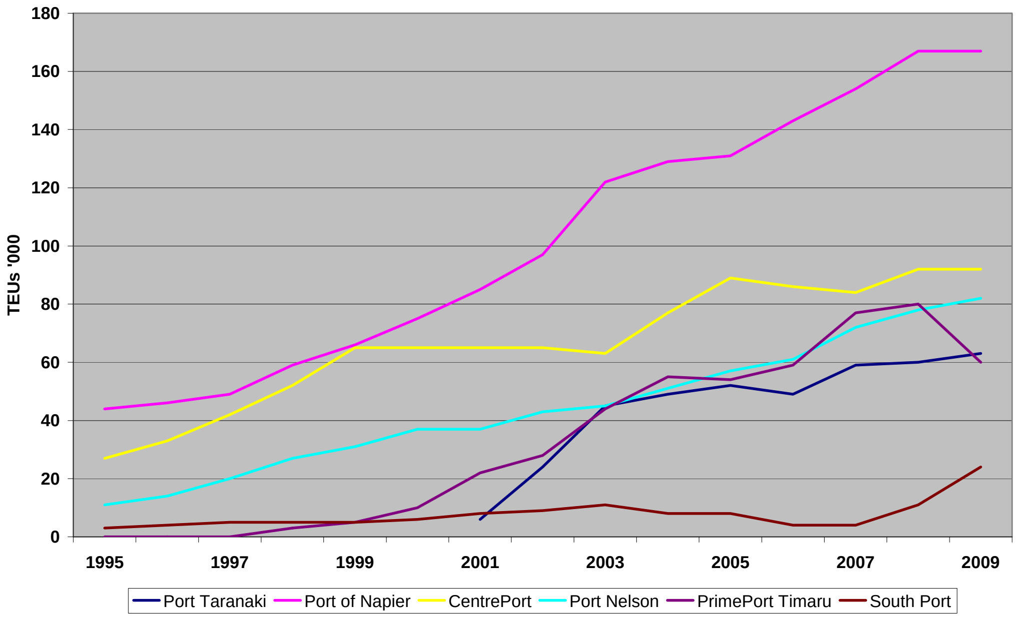
Source: Calculated by NZIER from annual reports.

Changes in shipping schedules or port use by major exporters can have much more dramatic impacts on smaller port companies and leave them with little or no return on significant investments they had previously undertaken to secure the trade. The loss of Fonterra's trade and some scheduled services in 2009 has had a major negative impact on the financial performance of PrimePort Timaru.[69] Port Taranaki was also very significantly impacted by the loss of Fonterra's trade in late 2009.[70] The impact on the forecast revenue of Taranaki Regional Council has been estimated at a 45% reduction, of $1.5 million, in 2010/11 alone and could be higher in future years.

69 www.stuff.co.nz/timaru-herald/news/2769722/Jobs-to-go-at-Timaru-port-after-Fonterra-export-call

70 www.stuff.co.nz/taranaki-dail-news-/news/3547079/Ports-wobbles-to-cost-ratepyers

Figure 11 Container volumes at minor ports 1995 to 2009
TEUs, thousands



Source: Calculated by NZIER from annual reports.

3.3.5 Reactions of local politicians

Local politicians can be mistaken about the potential significance for the financial performance of the larger container ports of the decisions of an individual shipping line to shift port calls. For example, in August 2006, the then Mayor of Christchurch City, Garry Moore, is reported by the New Zealand Herald to have said about Maersk's port review "… if Maersk stopped using Lyttelton and other smaller ports they could have to shut".[71] We have already noted what Auckland local government spokespersons considered the decision of Maersk in October 2006 to favour Auckland over Tauranga as its major port of call in the northern North Island meant for the proposed merger between the entities. It is as though local politicians translate the current share of a port company's container business in the hands of the shipping line threatening to leave into the financial impact on the port's profit should they do so. As not all trade will shift with a line and alternative lines are likely to fill a void at a major port, such an assumption significantly overplays the potential impact on a port. It may in fact be that a port company is financially better off losing some services than it would be if it made the concessions necessary to retain the trade.

It is not necessary for local body politicians to hold strong views of the impact of port reviews to be very concerned if a reduction in trade is likely at a port their council controls. As we have already noted, any diversion of cargo from one port to another will adversely impact on the local business community and the local employees of the port company losing trade, and positively impact on the business community and port

[71] www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10398270

employees of the locality gaining trade. This is irrespective of how the transfer affects the financial performance of the two port companies involved.

Local body politicians are elected by local residents and ratepayers, and a port company usually has only one vote and is unlikely to exercise even that. There is an incentive for councillors to want the port company their council controls to retain all existing trades and to gain new trades, even if the terms it has to offer to shipping lines to do so means the port company will not achieve a full return on and of its capital investments. The legislative objective of port companies to "operate as a successful business" can be in direct conflict with the incentives on the councillors who effectively and ultimately control the port companies. Councillors need to respond to the interests of the electorate, and for significant components of the electorate the retention and gaining of trade is far more important because of its impact on them than the success of the port company as a business.

Through holding companies, Christchurch City Council and the Auckland Regional Council own majority or full control of Lyttelton and Auckland, respectively. The pressure of the views of local politicians on directors and managers to be successful in retaining port calls and shipping services is potentially high, even if it is never explicitly articulated. It would be no surprise if, in attempting to retain or gain services, port companies offer discounts to prices and add services of such a magnitude that the retention of the service is financially the poorer option for the shareholders and economically the poorer option for the community than losing the port calls. From the port company's perspective, the calculus is whether the change in revenue and costs per unit of cargo is more than offset by the change in cargo volume so its economic profits rise. From the community's perspective any adverse impact on the port company's profits has to be more than offset by an increase in net benefits elsewhere in the community, and not just benefits to a small but vocal section of the community.

3.3.6 The consequences

Some evidence suggests that this is what has happened – that, in their enthusiasm to retain and gain port calls, New Zealand port companies have been agreeing with major container shipping lines prices and service levels that do not cover their full economic costs of efficient provision of the services. The full costs include not only the operating expenses but also the cost of capital for the assets needed to provide the services.

a) Profitability

In the Auckland Regional Holdings report published in October 2009 in which Auckland Regional Holdings appeals for the rationalisation of container port services, there are several telling statements: "Current NZ port returns are insufficient to justify future investment",[72] "The low bargaining power with shipping lines and intense inter-

[72] Auckland Regional Holdings, *Long-term Optimisation of the New Zealand Port Sector*, October 2009, p.5.

regional competition … [is] potentially resulting in net wealth transfer from NZ owners of ports to international shipping lines”[73] and “Returns unsustainable and insufficient to justify future investment”.[74]

To support its view on the inadequacy of the returns among port companies, Auckland Regional Holdings calculates the difference between the actual net profit after tax of the 11 commercial ports that handle containers[75] and what that profit would have been had each port achieved a 10% return on opening equity at market value (where there is a market)[76] and at book value. The following figure is reproduced from the Auckland Regional Holdings report.

This shows for each port company analysed Auckland Regional Holdings’ estimate of the total increase in net profits after tax (NPAT) the port company would have had to earn in 2008 in order to make a 10% return on “equity”. The first panel shows the calculation using the market capitalisation for those companies that are listed and the opening current book value of equity, which includes revaluations, for the remainder of the ports. The second panel shows the calculation using the opening current book value for all ports. For ports with both local government and private sector ownership, Auckland Regional Holdings has used the percentage shareholdings in each category to divide its estimate of the deficiency of returns between local authority shareholders (grey) and private sector shareholders (blue). Thus, for example, according to Auckland Regional Holdings, in 2008 port companies returns calculated using market values of equity where available were deficient by $138 million in aggregate with private sector investors bearing $29 million of the deficiency and local authority investors $109 million.

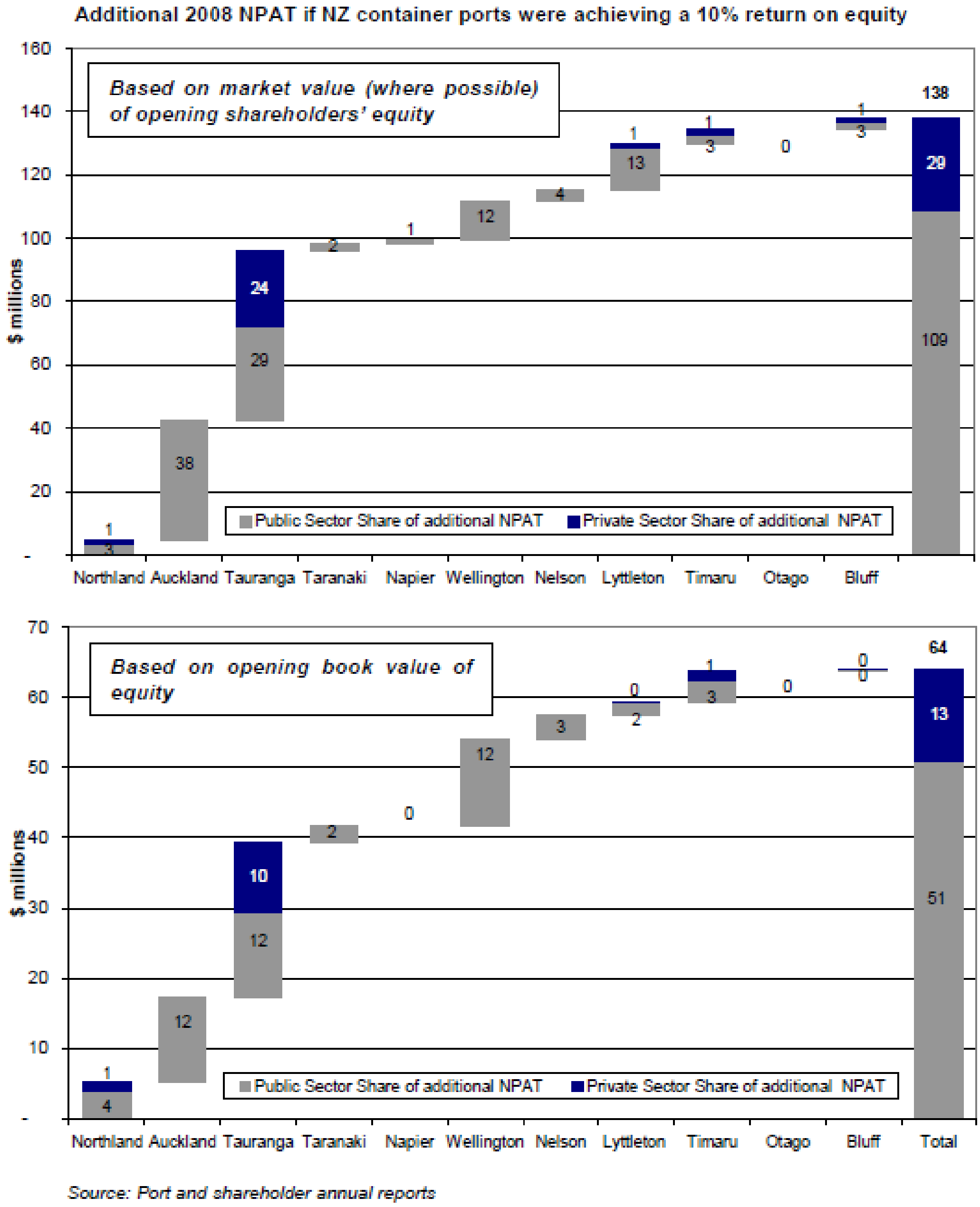
[73] Ibid., p.13.

[74] Loc. cit.

[75] The two commercial ports excluded are Eastland Port and Port Marlborough.

[76] By opening equity at market value (where there is a market) Auckland Regional Holdings means the market capitalisation of listed port companies.

Figure 12 Auckland Regional Holdings' calculation of inadequate returns by ports 2008



Source: Auckland Regional Holdings Limited, *Long-term Optimisation of the New Zealand Port Sector*, October 2009, p.9.

On the basis of this analysis, Auckland Regional Holdings concludes:

> *inadequate returns is an industry-wide issue, with port companies; local authority shareholders foregoing up to an estimated $109 million of annual earnings in 2008 (equivalent to over 20% of their combined rates earning)*. [77]

Auckland Regional Holdings was not the first to claim ports are currently earning inadequate returns to fully cover their costs, including their costs of capital. McDouall Stuart, an investment banking and sharebroking company with operations in New Zealand and Australia, undertook a financial analysis of the port sector in New Zealand in 2006. One of its conclusions was that "New Zealand's ports are not achieving sufficient profitability to cover their cost of capital". [78]

b) Profitability reconsidered

Economic profits

We have undertaken our own calculations of the economic profits (and losses) earned by 10 of the major commercial port companies handling containers. An important difference between economic profits and accounting profits is that the former include among the costs of the business the opportunity cost of capital employed in the business; accounting profit is calculated before any allowance for the cost of equity capital. A positive economic profit is made if the returns after all operating expenditure and any changes in the values of assets are more than enough to cover the cost of debt and equity capital employed to earn the returns. An economic loss is made if returns are insufficient to cover the cost of the capital employed. Zero economic profit means the company is just covering all its costs, including the opportunity cost of its capital.

The period of our analysis is from when the companies were established following the reforms in 1988 until 2009. For each year we have calculated the after tax return before interest payments of each port company from all its activities.[79] We have excluded interest costs because payments to debt holders are returns to investors in the business. From our estimate of returns we have deducted the cost of capital each year by applying an estimate of each port's nominal after tax weighted average cost of capital (WACC) to the value of its assets.[80]

---

[77] Ibid. p.9. This has been calculated on the basis that an appropriate return is 10% on the market value of opening shareholders' equity.

[78] McDouall Stuart, *The New Zealand Port Sector: Storm Front Approaching*, April 2006, p.2.

[79] The adoption of IFRS in 2006/07 led to some unusual changes in accounts. For simplicity, we have assumed that the restated return in the year of transition reflected "misstatement" of returns in the previous 10 years and have spread the effect evenly across the 10 years.

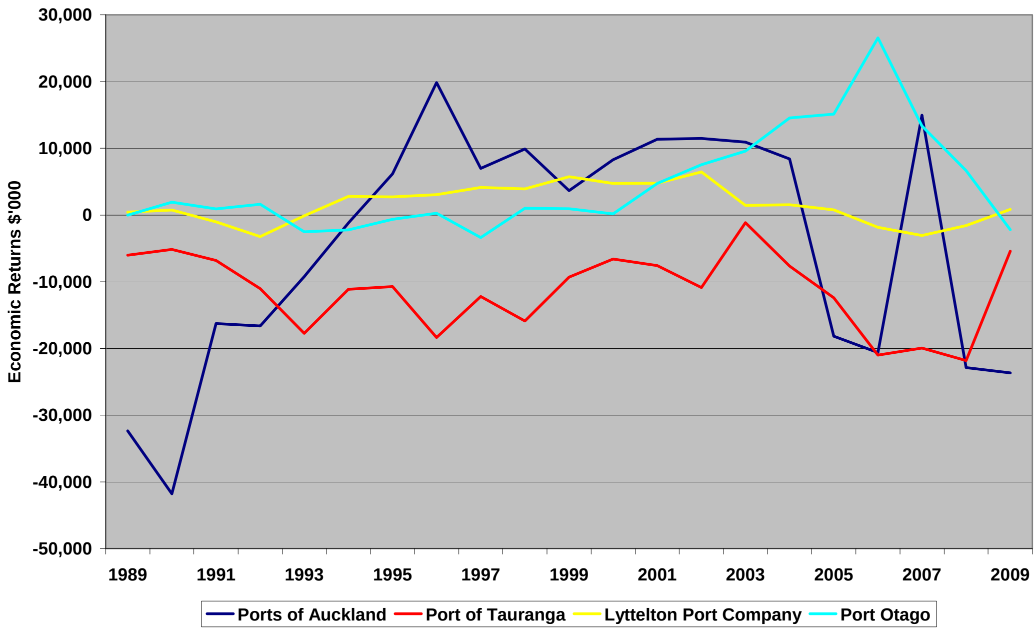
[80] We used the modified Brennan-Lally formula favoured by the Commerce Commission for calculating WACC. We based our estimates of asset betas on those published in December 2009 by PricewaterhouseCoopers for listed New Zealand ports and airports (and property companies for CentrePort and Port Otago in recent years). We used the June monthly average five year government stock interest rates from the Reserve Bank's webpage as the risk free rate in each year. For more details on parameters used, see Appendix A.

Analysis using book values of assets

We have undertaken the analysis using two different methods for valuing the assets of port companies. In our first analysis we used the book values of assets inclusive of revaluations. When a port company did not undertake a revaluation each year we spread the periodic revaluation evenly over the years back to the year of the previous revaluation.

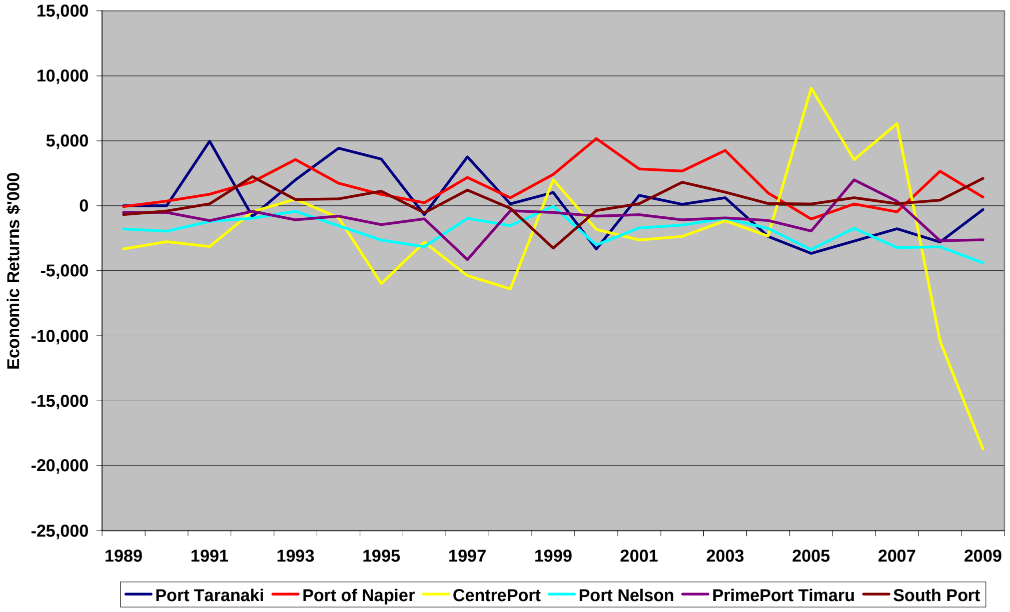
The following three figures summarise the results of this first analysis.

Figure 13 Economic returns of major ports calculated using book values 1989 to 2009



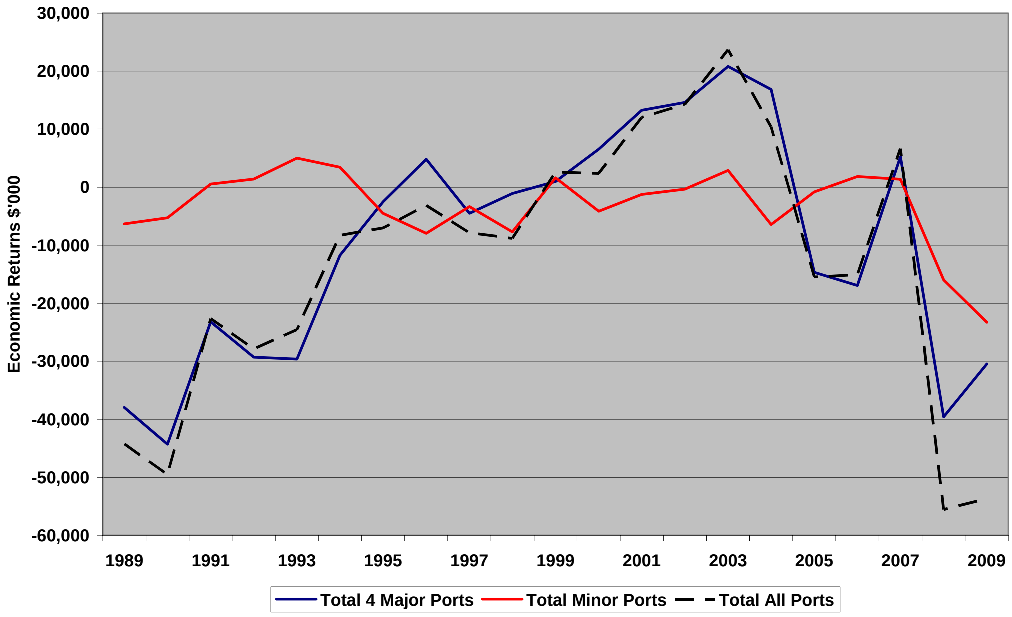
Source: Calculated by NZIER from annual reports.

Figure 14 Economic returns of minor ports calculated using book values 1989 to 2009



Source: Calculated by NZIER from annual reports.

Figure 15 Aggregate economic returns of major, minor and all ports 1989 to 2009



Source: Calculated by NZIER from annual reports.

The key findings when economic returns are measured on this basis are:

- Ports of Auckland and Port of Tauranga have accumulated very significant economic losses between 1989 and 2009
- Ports of Auckland's economic return (loss) performance improved until around 2003 and since then has declined substantially
- Port Otago has accumulated moderate economic returns, mostly in the past decade and as a result of its property development activities
- Lyttelton Port Company has accumulated modest positive economic returns but its level of performance has declined since 2002
- of the minor ports, Port of Napier has accumulated modest positive economic returns and CentrePort, Port Nelson and PrimePort Timaru modest negative economic returns, and
- the performance of Ports of Auckland dominates the aggregate performance across all ports.

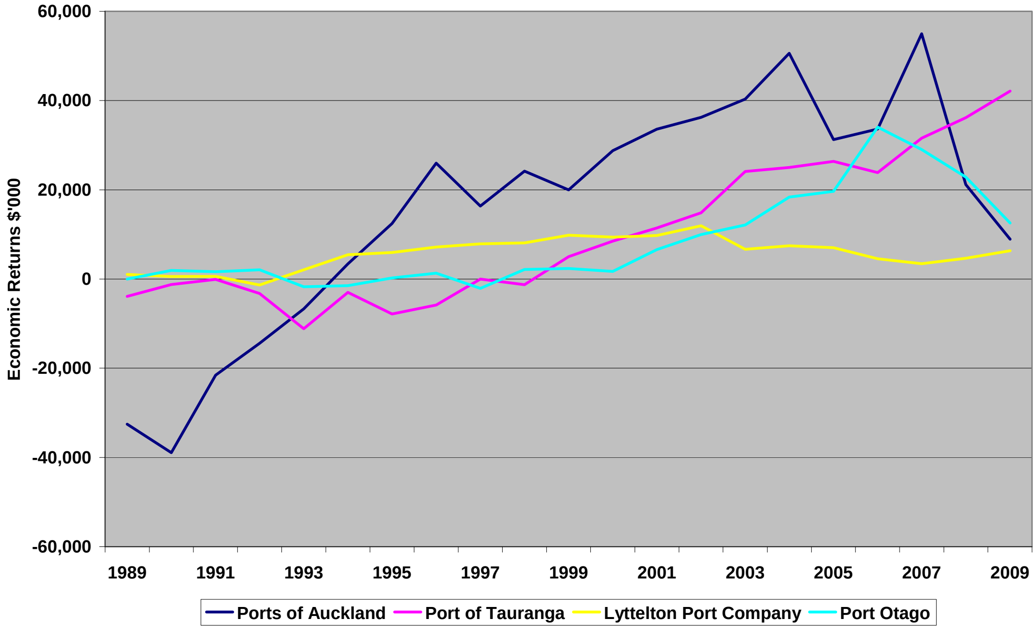
The methodology of this analysis is similar to the methodologies employed by Auckland Regional Holdings and McDouall & Stuart and the results are also broadly comparable. Figure 15 shows that for all ports in aggregate the pattern was one of declining economic loss or rising positive economic returns until about 2003, but since then the trend has reversed and ports have in aggregate gone from making positive economic returns to making negative ones.

Analysis using historic cost of assets

In our second analysis we use an estimate of the depreciated historic cost value of port assets. We have derived this for each year by adding to the opening depreciated historic cost of assets at vesting the net expenditure on investment activities during the year less accounting depreciation during the year.

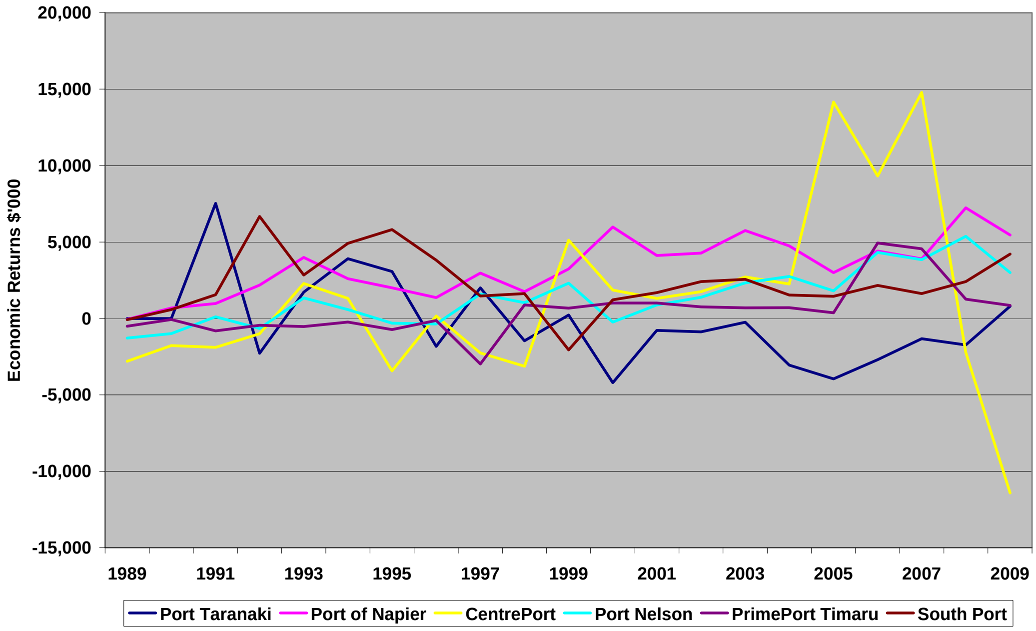
The following three figures and table summarise the economic returns calculated using assets valued at historic cost.

Figure 16 Economic returns of major ports calculated using historic cost 1989 to 2009



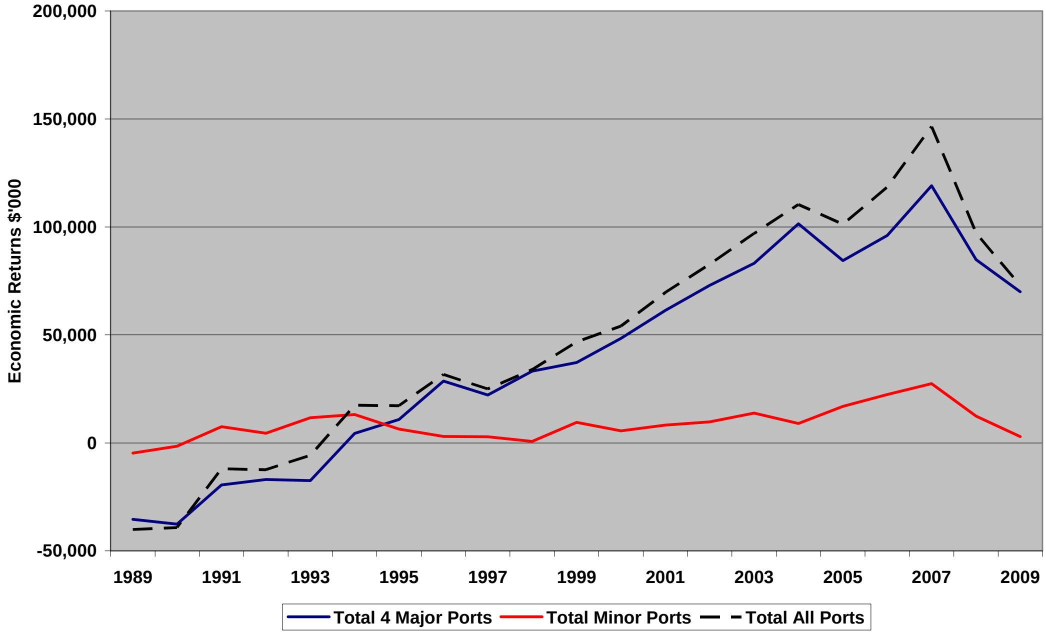
Source: Calculated by NZIER from annual reports.

Figure 17 Economic returns of minor ports calculated using historic cost 1989 to 2009



Source: Calculated by NZIER from annual reports.

Figure 18 Aggregate economic returns of major, minor and all ports calculated using historic cost 1989 to 2009



Source: Calculated by NZIER from annual reports.

The findings from this alternative analysis are very different from those we report above. More specifically:

- in the early years after reform, Ports of Auckland made sizeable economic losses but since 1994 it has made positive economic returns, although these have dropped sharply in recent years
- Port of Tauranga's economic returns have increased more or less steadily since 1998 with a minor hiccough in 2006 followed by a strong recovery
- there is no sign that Maersk's decision in 2006 to favour Auckland has negatively impacted on Port of Tauranga and positively impacted on Ports of Auckland – the evidence suggests the contrary
- since the mid-1990s, all four major container ports have made positive economic returns in every year
- the impact of gaining and losing trades can be clearly seen in the economic returns of Port Taranaki and PrimePort Timaru
- the impact of being large property developers is also clear in the recent fluctuations of the economic returns of CentrePort and Port Otago, and
- reduced and negative returns from property at Port Otago and CentrePort have contributed materially to the declines in economic returns in 2008 and 2009.

Which of these two analyses gives the correct picture? In our opinion, the second analysis, which uses an estimate of the depreciated historic cost value of assets, provides a more accurate picture of the actual economic returns of port companies.

Problems with use of book value

There is a significant problem with the first analysis, which incorporates essentially the same assumption as Auckland Regional Holdings and most of the other commentators in claiming that ports are achieving inadequate returns. This approach compares the return required to fully cover the costs of capital on current asset valuations that have been revalued upwards to reflect current costs without treating the revaluation gains as part of the return to the company. It is now widely accepted by regulators and regulatory economists that to determine if the actual returns of an entity fully cover its costs, including its costs of capital, when using a nominal weighted average costs of capital and assets which have been revalued, the asset revaluation gains (or losses) have to be included as part of the economic return. On the other hand, if assets valued at depreciated historic cost are used, it is accepted that no adjustment to revenue is required for revaluations in determining whether a firm has fully covered all of its costs, including its costs of capital.

It is easy to understand why Auckland Regional Holdings has reached the conclusion it has about the inadequacy of port company profits to sustain investment. It has compared the actual returns currently achieved with the returns that would need to be achieved to provide a full return on the current replacement cost of its assets, concluding that current returns are inadequate to replace existing assets. The missing component in its calculations is the failure to take into account that if the investment was undertaken today, the costs to the investor in nominal terms would be fixed today, but the nominal returns would be earned in the future and would capture any increase in prices in the future.

Preferred results

Our second analysis shows the historical record to be that port companies in general, and the major port companies in particular, have achieved more than adequate returns over time on their past investments, including the values of their assets set at the time the assets were vested in each port company. Investors have not been poorly compensated, with the minor exception of a small accumulated economic loss by Port Taranaki. Investors have received at least a full economic return on their investments in the long run. The investors in the four major ports have done significantly better with total economic returns of over $831 million since vesting.

As we have noted, there is a risk in local authority ownership that, to retain and gain ship visits, port companies may end up agreeing with shipping lines prices and service levels that do not cover their full economic costs of efficient provision of the services. Our analysis, however, suggests that inadequate returns to support investment have not been the overriding pattern throughout the period. Ports have in general made positive economic returns over the period as a whole when properly measured. However, the recent sharp deterioration in the economic returns of Ports of Auckland (and improvement in Port of Tauranga's return) suggests that, in its bid to take the Maersk business away from Port of Tauranga, Ports of Auckland offered price discounts and improvements in service that meant that, on this business, it is making inadequate returns to support the capital invested. The deterioration in the economic returns of Lyttelton Port Company from around 2003, despite its container and bulk cargo volumes both continuing to grow, suggests it too may have responded to losing some services in the 2002 Maersk port review by offering price discounts that undermined its returns.

c) Excessive capital expenditure

Another alleged consequence of the competition among ports to retain and gain ship calls is claimed to be excessive investment levels in some ports and duplication of facilities. This was also identified by Auckland Regional Holdings. According to its 2009 report, there is "potential for considerable unnecessary duplication of investment if hub port status continues to be contested and transport investment not co-ordinated"[81] and "uncertainty around the future shape of the NZ port sector means 'hub' port status is being contested. This is resulting in unnecessary duplication and inefficient investment."[82]

McDouall Stuart made the same claim:

> *A number of ports are contemplating bold capital expenditure programmes. While investment is a necessary part of remaining in business, it is our observation that the expected growth of New Zealand cargo flows does not justify the collective level of investment being proposed. Where investment is being made before existing assets are fully utilised, or without being under written by contractual commitments, those ports and their owners are being exposed to potentially significant commercial risks.*[83]

In its 2008 review, Rockpoint elaborated on the same theme. It noted that between 1995 and 2007, the 11 main ports have collectively invested $1,250 million in capital expenditure and that this was 2.2 times the $605 million figure for depreciation they incurred over the same period. In its opinion "while this [ratio of capex to depreciation] may be justifiable where investment is being made to meet trade growth or in some cases offset lack of prior investment, the data strongly suggests most ports have been over-investing".[84]

In its 2010 review, Rockpoint has adopted a slightly different position. It notes that while observations about the ratio of capital expenditure to depreciation "suggest that the level of capex is excessive, there are several partial explanations."[85] It identifies these as including among others:

- depreciation is based on incurred cost which for long life assets will be materially below replacement cost

---

[81] Loc. cit.

[82] Ibid., p. 10.

[83] Ibid., p. 3.

[84] Rockpoint, *New Zealand Port Sector Review, 2008*, p.62.

[85] Rockpoint, *New Zealand Port Sector Report, 2010*, p.95.

- several ports have material non-port business which incurs capex that has no bearing on port operations; it notes particularly Port Otago, CentrePort Wellington (property development investments) and Marlborough Port Company (marinas and marine farms), and
- the shift from break-bulk to container has required ports to invest in new capacity.

We have calculated the ratio of capital expenditure to depreciation for the 10 port companies we have analysed over the period 1989 to 2009. The average ratio across all ports is 2.68 and ranges from 1.33 for Ports of Auckland to 5.88 for Port Otago. The average rate of depreciation relative to the value of non-current assets (which includes land) across all port companies analysed over the period was 3.90%. This implies that the percentage of capital expenditure to non-current assets averaged 10.45% (2.68 times 3.90%). If the ratio of output to non-current assets was constant, the average level of capital expenditure should have been able to sustain growth in output of 6.54% per year.[86] As there are some economies of scale in port operations, this figure is a conservative understatement of the output growth that the average level of investment should have been able to sustain. On the other hand, some of the capital expenditure, especially at CentrePort and Port Otago, was associated with property development and so would not have contributed towards supporting increased port operations.

Table 5 Implicit capital stock and container volume growth rates compared 1995 to 2009

	Implicit capital stock growth rate	Container volume growth rate
Ports of Auckland	1.00%	5.85%
Port of Tauranga	5.92%	17.82%
Port Taranaki	6.24%	34.44%
Port of Napier	5.95%	10.00%
CentrePort	6.80%	9.15%
Port Nelson	2.32%	15.43%
Lyttelton Port Company	5.79%	7.46%
PrimePort Timaru	6.35%	33.97%
Port Otago	11.05%	16.73%
South Port	5.05%	16.01%
Total	6.54%	9.74%

Source: Calculated by NZIER from annual reports.

Between 1995 and 2009, the annual compound rate of growth of container volumes through the 10 ports we have analysed has been 9.74%. On this basis, a level of capital expenditure able to support growth in output of around 6.54% per year on average is not obviously excessive. Indeed, as the table shows, the average annual growth in container volumes at each port was significantly in excess of the annual

[86] 10.44% minus 3.90%.

rate of growth in the capital stock at each port that is implicit in the ratio of capital expenditure to depreciation at the port. When the output of a business is growing quickly, the ratio of capital expenditure to depreciation can be high and can remain high for an extended period of time. In our opinion, the ratio of capital expenditure to depreciation does not support the contention that port companies have been engaged in manifestly excessive levels of capital expenditure given the growth in container trade they have experienced.

3.4 Reduced bargaining strength with labour

A further accusation sometimes made is that local authority control has, in some instances, weakened the bargaining strength of port company boards and managers when negotiating terms and conditions with waterfront labour. As a result, the capture of efficiency gains relating to labour has been deferred or not achieved at all.

This charge has been most often levelled at Lyttelton Port Company. The ultimate major shareholder of this company is Christchurch City Council. The historical political leanings of this council and some local Christchurch members of parliament have resulted in the city being referred to as the "Peoples Republic of Christchurch".

Lyttelton Port Company made significant changes to its employment conditions for waterside workers in the early 1990s, at the same time as most other ports were introducing similar changes. While other ports continued to move slowly towards adopting more flexible working conditions, however, Lyttelton Port Company made little progress on introducing further reforms in the late 1990s and early 2000s.

It has been suggested that the political leanings of key local politicians inhibited the ability of the port company to negotiate further labour reform with the union. In support of this argument, some leading local political figures took actions that appeared to provide public support to the union when a picketer was tragically run over and killed by a motor vehicle during a dispute at the port in late 1999. The company quickly dropped its attempt to seek employment changes on this occasion and did not renew its attempts until 2002.

On this occasion, some local body politicians took a very active interest in the dispute that arose with the union. The Chair of the port company was forced to resign.[87] He had objected to the active interest politicians were taking in the dispute. The announcement of his resignation was quickly followed by the resignation of the Chief Executive. Once again, the port company did not achieve the labour reforms it was seeking.

Against this argument, however, it was not until 2002 when Maersk conducted its first significant port review that the costs of labour operations under Lyttelton's terms and conditions for delivering a cost efficient 24 hours a day seven days a week service became of material commercial importance. In other neighbouring ports, Timaru and

[87] The Chair of the port company referred to has been a significant contributor towards the production of this report.

Otago, the need for lower cost flexibility to be competitive had been of greater commercial importance as they struggled to retain and gain trade which, during the early-mid 1990s, was increasingly consolidating on Lyttelton. The waterside workers union at Lyttelton had always been strong and remained so, and in view of the lack of commercial imperative and a strong union, it is not surprising it took some time for the local workers to accept the need for change. According to this view, the political leanings of local politicians made no material difference to the outcome or the pace of reform of labour conditions.

Our conclusion is that, where it has happened, the direct or indirect involvement of local body politicians in labour negotiations on the side of the unions would not have assisted port companies in their labour negotiations. Whether it stopped or delayed improvements in labour productivity is unclear because it is not certain that in the specific circumstances the improvements would have been achieved if there had been no interference.

3.5 Excessive charges on captive trades

Another criticism that has been levelled is that the desire of local authority shareholders for dividends to reduce the need for them to rate their constituents or to spend on the provision of public facilities, such as sports facilities, museums, theatres, roads, etc., has encouraged port companies to levy excessive charges on captive trades that have little or no option but to use the local port.[88]

A qualitative study of port companies and market power was undertaken by Charles River Associates (CRA) for the Ministry of Transport and Ministry of Economic Development in 2002. This found that there was a high level of inter-port competition in many trades, including the containerised trade, and strong countervailing power to ports in the hands of major shipping lines and large exporters.[89] CRA also concluded, however:

> *Not all areas of port activities are competitive. We identify specific customer groups for which competitive pressures on ports have been limited, leading in some cases to the possible existence of market power. The customers affected are said to be 'captured' to a particular port due to one or more of geographic, point-to-point, and asset specific factors.*[90]

The captive trades that CRA discussed were:

- geographic (forest products, coal, fruit, aluminium and cement)

---

[88] For an analysis claiming that port companies have been earning excessive returns, particularly from captive trades, see Simon Terry Associates, *Portly Charges: Port Company Profitability*, March 2002. See also Port Company Reform Working Group, *Submission on the Market Power of Ports*, March 2002. Both documents argue port charges are excessive but do not explicitly link this to their ownership structure.

[89] Charles River Associates, *Port Companies and Market Power – A Qualitative Analysis*, April 2002.

[90] Ibid., p.4.

- point-to-point (coastal shipping (Pacifica and Silver Fern Shipping), cement and the inter-island trade), and
- asset capture (oil products at Port Taranaki, coal at Lyttelton Port Company and Kiwi Rail at the ferry terminals at CentrePort and Port Marlborough).

CRA did not rule out that some of these trades, in some instances, may be subject to the exercise of market power by the port company. It concluded, however, that policy makers should be very cautious about prescribing regulatory interventions to deal with the residual issues or they could give rise to unintended consequences more detrimental than the problem they are intended to address.

CRA did not undertake a quantitative analysis of the economic returns of the port companies of the kind we have conducted. Our analysis suggests that the four major ports have collectively earned economic profits of $830 million since assets were vested in them at the end of the 1980s. The six minor ports have collectively earned economic profits of nearly $190 million over the same period. These numbers suggest the markets in which ports have operated have not all had workable or effective competition throughout the period since port companies were formed.

For the purposes of our analysis, however, the relevant question is not whether port companies exercise what market power they possess; it is whether they exercise it more vigorously because they have local authorities as their shareholders than they would if they were privately owned. We can see no evidence to suggest they do nor reason to believe that they would have an incentive to act in this way.

On the contrary, political ownership is a long-establishment means of regulating and restraining the exercise of market power. We have already emphasised that political owners may tend to favour expanding the volume of trade served by a port, even if this is done at the expense of achieving adequate returns on investment, including costs of capital. This suggests political ownership may lead to prices being set inefficiently low and not inefficiently high. While the restraint of monopolies through political ownership has fallen out of favour in recent times, to be replaced by regulators overseeing commercially motivated enterprises, this is not because political ownership was not an effective constraint. It was because political ownership had several other consequences which are considered to be undesirable.

3.6 Summary

Our review of the available evidence indicates that it does support some of the concerns about ports and port ownership that have been expressed:

- local authority ownership has militated against the rationalisation of port activities in New Zealand and the introduction of experienced international operators into the management of ports
- most New Zealand ports have considerable scope to improve the quality of their services and efficiency and there is evidence that their relative performance has declined in recent years, at least when compared with major Australian ports, and

- there is some evidence that Ports of Auckland, and possibly Lyttelton Port Company, have in recent times succumbed to local pressures to retain and grow the volume of trade through their port by agreeing to provide international shipping lines with levels of service at charges such that the services may not make a full economic return.

With regard to the latter point, it needs to be noted that our analysis of the economic returns of port companies shows that since corporatisation in the late 1980s, all but one of them has made a positive economic return in aggregate and the four major container ports have made very substantial economic returns. Auckland Regional Holdings, the 100% shareholder of Ports of Auckland, obviously believes returns are inadequate to justify investment and that rationalisation of ports is essential and it is promoting these ideas among other ports and presumably among politicians and others involved in developing policy. Our analysis, however, reveals that there is no inadequacy of returns to cover the costs of capital over the period as a whole, when these are measured correctly. Any concern should be focused on relatively recent developments, and specific situations involving particular ports.

Several other accusations have not been supported by the available evidence, or the evidence is equivocal:

- the ratio of capital expenditure to depreciation does not support the contention that port companies have been engaged in manifestly excessive levels of capital expenditure given the growth in container trade they have experienced

- where it has happened, the direct or indirect involvement of local body politicians in labour negotiations on the side of the unions would not have assisted port companies in their labour negotiations; whether it stopped or delayed improvements in labour productivity is unclear because it is not certain that, in the specific circumstances, the improvements would have been achieved if there had been no interference, and

- there is no clear evidence that local authority ownership has led port companies to exercise what market power they possess over some trades more than they would have done if they had been privately owned; indeed, political ownership may have lead to a bias towards inefficiently low prices instead of inefficiently high ones.

4. Policy options

It is not the role of this report to present a careful and detailed cost benefit analysis of any policy options. Such an analysis should be required before any of them are implemented. The report's purpose is to assess the alleged inadequacies relating to the performance of New Zealand ports against the available evidence and to propose some of the options that may be useful to address alleged inadequacies that have been found justified.

It is clear from the report that the general policy problem is not to increase the returns to investors in port companies by, for example, encouraging rationalisation so they have more strength in negotiations with shipping lines, as Auckland Regional Holdings would have policy makers believe. If there are instances where prices have been set too low to adequately cover the costs of capital, this is a matter to be addressed by individual port companies and their owners. It does not require a general policy response because returns have in general more than covered the cost of capital since port reform occurred.

The fact that a company with market power covers its costs of capital does not mean it is efficient, however. It may be that it uses its market strength to hold its prices above the competitive level in order to make a full return, even though it is inefficient and its costs are unnecessarily high. The general policy problem is how to ensure that New Zealand ports become more efficient in their operations and competitive and commercial in their pricing and continue to improve and lower their costs and charges. Inefficiency at ports has a pervasive effect on raising costs of production and exports because port costs are reflected in the costs of all exports and the costs of all other goods and services which incorporate imported components either directly or indirectly.

Rationalisation of services between ports to improve efficiency is likely to be an outcome of any successful policy, but the policy also has to guard against rationalisations to improve the negotiating strength of ports and increase their market power.

One option to encourage improvements in efficiency and more competitive and commercial pricing would be to require significantly greater information disclosure from port companies than most of them are currently providing. As we have already noted, legislation requires the directors of port companies to report to shareholders and the Minister of Transport relative to the SCI and on the operations of the port company and its subsidiaries during the financial year. The annual report has to contain the audited consolidated financial statements for the year, including statements of financial position, profit and loss and cash flows. It also has to "contain such information as is necessary to enable an informed assessment of the operation of the port company and its subsidiaries".

In our opinion, not only is this requirement inadequate in several respects but some of the unlisted port companies are currently providing insufficient information to fully meet their legal requirement; the information some port companies are currently providing is not sufficient to enable an informed assessment to be made of the port company and its subsidiary's operations.

We suggest the information disclosure requirement on port companies should be to:

- make the information available to the public in general and not just shareholders and the Minister of Transport; they are providers of very important public infrastructure with potential market power in some areas of their businesses
- report quarterly, or at least six monthly
- separately report on port activities and other activities, such as property development
- report the non-financial data on container port productivity currently collected by the Australian Bureau of Infrastructure, Transport and Regional Economics (BITRE), and
- report non-financial data on non-container port productivity.

We further suggest that either the Ministry of Transport, or preferably the new New Zealand Productivity Commission, should regularly publish a compilation and analysis of financial and productivity data relating to each port. This should be similar to a combination of the periodic studies of the productivity of Australian ports that have been undertaken by the Australian Productivity Commission and the quarterly reports on port productivity published by the Australian BITRE, but should extend beyond container terminal productivity to cover non-container trades as well.

The objective of this information disclosure would be to make more transparent than at present the performance and productivity of New Zealand ports with a view to encouraging improvements in productivity and making available reliable information on their financial and non-financial performance to assist various parties identify any excessive or inadequate charges.

A second option to encourage improvements in efficiency and more competitive pricing would be to require the major port companies to facilitate competition in the provision of container stevedoring at their ports. All currently have competition for general stevedoring. We believe it is not a coincidence that Port of Tauranga is the only port with competing container stevedores and a significantly higher net crane rate than either Lyttelton Port Company or Ports of Auckland.

This option would reduce the current degree of vertical integration of New Zealand ports. As CRA noted in its 2002 study, vertical integration is efficient in the New Zealand context of small ports with lumpy cargo flows.[91] Moreover, physical constraints on the availability of berth and storage facilities are likely to make this policy option difficult to implement without significant inefficiencies at Lyttelton Port Company and Port Otago. The policy may be practicable and yield net benefits only at Ports of Auckland, among the major container ports.

[91] CRA, op. cit., pp.60-61.

A third option, which could supplement the previous proposal, is to require port companies that cannot otherwise provide for competition among container stevedores to become landlord ports in relation to these areas and periodically tender out the right to be the container stevedore at the port. The periodic tendering of the role would encourage improvements in stevedoring productivity over time as potential providers compete with one another to be in the position to pay the most to the landlord for the right. This option would provide less ongoing competition than having multiple stevedores, but may be more practicable in the smaller and physically constrained ports, such as Lyttelton and Otago, where multiple operators would be inefficient or impracticable.

A fourth option is to require local authorities to divest their shares in port companies. This would reduce the extent to which parochial interests inhibit the introduction of more efficient operational procedures, such as Hutchison was expected to have introduced to Lyttelton, and efficiency-improving rationalisations between ports. This policy would also remove the concern that the involvement of local councillors as owners may lead to inefficiently low prices in order to obtain and retain shipping services for the region.

Appendix A The calculation of WACC for port companies 1989 to 2009

WACC formula used: Modified Brennan-Lally.

Risk-free rate: Average government five year stock interest rate in month of June each year between 1989 and 2009. The data were obtained from the Reserve Bank of New Zealand website.

Post-tax market risk premium: 1989 to 1999 (8.0%); 2000 to 2003 (7.5%); and 2004 to 2009 (7.0%).

Investor/corporate tax rate: 1989 to 2008 (33%); and 2009 (30%).

Debt premium: 1989 to 2007 (1.15%); 2008 (1.5%); and 2009 (2.0%).

Equity beta: Based on data in PricewaterhouseCooper, *Cost of Capital*, December 2009. Ports of Auckland and Port of Tauranga 1989 to 2009 (0.75); Port Otago 2002 to 2009 and CentrePort 2005 to 2009 (0.58), to reflect their property development involvement; and other ports 1989 to 2009 (0.50).

Asset beta: Ports of Auckland and Port of Tauranga 1989 to 2009 (0.60); Port Otago 2002 to 2009 and CentrePort 2005 to 2009 (0.35), to reflect their property development involvement; and other ports 1989 to 2009 (0.40).

Leverage: Ports of Auckland and Port of Tauranga 1989 to 2009 (20%); Port Otago 2002 to 2009 and CentrePort 2005 to 2009 (40%), and other ports 1989 to 2009 (20%).