Port Companies and Market Power - A Qualitative Analysis

Submitted to

Ministry of Transport and
Ministry of Economic Development
WELLINGTON

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1. INTRODUCTION AND EXECUTIVE SUMMARY

1.1. INTRODUCTION

The Government announced late last year that it would commission a study of the market power of New Zealand’s shipping ports. The study would be a response to concerns that were raised in the report of the Shipping Industry Review, which appear to have emerged from a number of submissions to that review.

The Ministry of Economic Development and the Ministry of Transport (“the Ministries”) selected Charles River Associates (Asia Pacific) Ltd (“CRA”) to undertake the study and to produce a written report. The Ministries did not ask CRA to undertake an empirical assessment of market power in the port industry. Rather, the objective of the project is to provide a qualitative evaluation of the extent of any market power and the efficiency consequences in the industry.

The terms of reference for the report stipulate that the study should:

- identify and analyse the characteristics of the ports market (or markets);
- assess factors influencing market power in the ports market(s), including the constraints imposed by existing institutional and regulatory measures; and
- provide an overview of the ports market(s), with specific description of the pattern and frequency of market power occurrences and the implications for efficiency.

This study is intended to provide the Government with an overview of competition issues facing shipping ports and the information necessary to make an informed decision about the merits of a Commerce Commission inquiry or other possible courses of action.

1.2. PROCESS

The Ministry of Transport wrote to key stakeholders on 22 January 2002 to inform them that CRA had been appointed to carry out the study. The Ministry’s letter also noted that the study is preparatory in nature and that its purpose is to gather information. That letter set out the planned consultation process and key project dates, in particular noting that a final report would be completed by 29 April 2002.
CRA wrote to market participants on 25 January seeking submissions and providing a set of key questions to help focus submissions from stakeholders. That letter requested submissions by 8 March, and indicated that we would consult with key stakeholders (either face-to-face or by phone, as identified by the Ministries) during the latter half of February. The set of key questions circulated to market participants is reproduced in Appendix A. The questions were also publicly available on the Ministries' websites.

During the preliminary stages of the study, CRA conducted extensive background research into the ports industry, including a review of academic literature, relevant overseas inquiries and reviews of the ports sector (including recent studies conducted in Australia), and past reviews of the New Zealand shipping and ports industry.

CRA consulted with a wide variety of key stakeholders during February including port companies, international shipping lines, coastal shipping companies, exporters and importers, land transport companies, and various industry bodies. The interested parties selected for consultation were determined in discussion with the Ministries. Appendix B contains a list of those stakeholders that participated in the consultation process.

CRA received a total of 36 submissions to the study from a wide range of interested parties. A number of parties who were consulted during the key stakeholder process also made formal submissions. Each individual submission was analysed by a member of the CRA project team and considered in drafting the final report. Where instructive, individual submissions have been referenced within the text of the report. A list of parties who made written submissions to the study is contained in Appendix C.

Having consulted with key market participants, analysed their submissions, and undertaken extensive background research, CRA submitted a draft report for consideration and comment by the Ministries on 28 March.

CRA submitted this final report to the Ministries on 29 April 2002.

1.3. **EXECUTIVE SUMMARY**

1.3.1. **Abstract**

We analyse the competitive processes in the relevant ports industry markets. We find that the New Zealand ports industry is generally competitive, and that the market power of ports is limited. This conclusion is supported by international benchmarking studies, which show New Zealand ports are comparatively efficient and performing well.
We have, however, identified areas of ports operations for which competitive pressures have been more limited. The customers affected are said to be ‘captured’ to a particular port due to one or more factors which we identify as geographic, point-to-point, and asset-specific.

However, these factors affect only a limited share of the transactions between ports and their customers. Consequently, there is not a strong case for policy action on an industry-wide basis. Such intervention is likely to have the effect of distorting the outcomes achieved by what is, by most indications, a largely competitive industry. It is our view that:

- A price inquiry is not required; and
- Major changes to general competition laws and other industry-specific legislation impacting on the ports industry is not justified;

It may be worth investigating the efficacy of a targeted mechanism to address the narrow set of market power concerns. However, great care would be needed to ensure that the costs of such a policy would not exceed its benefits. A valid policy response is to continue with the existing arrangements.

### 1.3.2. Report Summary

Central to our assessment of ports’ market power are the economic concepts of market power and efficiency. Market power is defined as the ability of a firm to charge a price in excess of the competitive level. The scope for a firm to exercise market power is enhanced where customer demand is relatively inelastic, that is, where the customer lacks an economic substitute for the relevant good or service.

Our report describes, at a high level, the structure and operations of the New Zealand ports industry. We examine the various commercial activities conducted within ports and the key participants, including international and coastal shipping lines, importers and exporters, domestic shippers, land transport providers, and the various providers of port services, including port companies. We find that New Zealand ports are characterised by a relatively high degree of vertical integration, but that this varies between individual ports. While vertical integration has raised concerns about market power, we consider that there are generally compelling efficiency justifications for these arrangements.
Defining markets is the first step in the process of identifying the existence of market power. In line with standard competition assessment, the markets in which ports operate are formally defined along the product, geographic, functional, and temporal dimensions. We use this framework to assess the level of competition between suppliers of closely substitutable goods or services. We identify a number of distinct but inter-related markets within the ports industry. The key markets are for the provision of port infrastructure, which has varying geographic dimensions, depending on the identified customer group, and the cargo. For example, the extent of the geographic hinterland of port infrastructure is more limited for low-value logs than it is for casks of wine. Other markets for port services, including stevedoring, marshalling, pilotage, and towage services, tend to be geographically localised to individual ports.

An assessment of the level of competition and performance within these defined markets is then presented, with a particular focus on the provision of port infrastructure. The various forces that act to constrain the behaviour of ports are examined.

We identify a high level of inter-port competition, and find that its intensity is increasing, particularly between Auckland and Tauranga, and Lyttleton and Timaru. Inter-port competition takes place on two equally important dimensions, with ports making vigorous efforts to attract the cargoes of shippers and also to attract major shipping lines to their ports. Other sources of competitive tension identified include intra-port competition, inter-modal competition, and potential entry. The countervailing power of certain classes of port customers, particularly major shipping lines and large exporters, also acts as an effective constraint on the pricing and service levels of ports.

Vertical integration of port companies into the provision of operational port services has been raised as a competition concern. While New Zealand ports are highly vertically integrated, our analysis identifies that the key driver of integration appears to be the efficient structuring of port operations, rather than for an anti-competitive reason. From the information we have gathered from the consultation process and from publicly available studies on the performance of New Zealand ports, we conclude that New Zealand ports compare very favourably with international ports in efficiency, price and service levels.

Not all areas of ports activities are competitive. We identify specific customer groups for which competitive pressures on ports have been more 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. Capture is a matter of degree and in some cases identifying a captured customer requires a full investigation into the feasibility of alternatives for the port customer.

Port customers claiming to be the subject of capture have identified four broad ways in which ports appear to exercise market power (where relevant we have used illustrative cases):
• Excessive charges for port services (we examine the case of Centreport and Pacifica);

• Financial returns to port companies in excess of those earned in other industries (we examine the evidence put forward by the Port Company Reform Working Group to support this contention);

• Unwillingness of ports to negotiate in good faith on prices and a general lack of responsiveness to customer requirements (we examine the case of Methanex and Westgate); and

• Cross-subsidisation of port services from captive to non-captive users related to a lack of transparency in the pricing structures adopted (we examine the Port Nelson cases).

We find that in some cases there are mitigating factors which explain, in part, some of this behaviour. Furthermore, factors including reduced infrastructure costs and declining land transport costs are contributing to a reduction in the number of captured customers. Significantly, not all captured customers were of the view that ports exercise market power. Customers with both captured and other non-captured business with ports reported comparable treatment of each business.

We assess the adequacy of the existing regulatory and governance structure impacting on the New Zealand ports industry. New Zealand ports operate under both industry-specific regulation and general competition laws. We find that the current regulatory and governance structure maintains an environment that is, in general, conducive to competitive and efficient port operations. However, we find that, in relation to the problems claimed by specific classes of port customers in their negotiations with ports, general competition law appears to provide little guidance on resolution.

Nevertheless, these problems affect only a limited share of the transactions between ports and their customers. Consequently, there is not a strong case for policy action on an industry-wide basis. Such intervention is likely to have the effect of distorting the outcomes achieved by what is, by most indications, a largely competitive industry. On the basis of this finding, it is our view that a price inquiry is not required, and major changes to general competition laws and other industry-specific legislation impacting on the ports industry are not justified.

In dealing with the more specific competition concerns, there may be a case for a targeted policy response in relation to those specific customer groups. One option for future action is a targeted alternative dispute resolution (ADR) scheme, which may be a welfare-enhancing response to problems faced by these customer groups in the negotiation of charges for port services, depending on the quality of implementation. However, care needs to be taken to ensure that this type of policy action does not lead to an undue regulatory burden; there is a danger that an ill-formulated ADR scheme may become de-facto price regulation.
We emphasise that careful formulation of the appropriate policy response is required to ensure that it does not distort the largely competitive outcomes currently being achieved in the New Zealand ports industry. A valid policy response is to continue with the existing arrangements.

1.3.3. Structure

The report is structured as follows:

- Chapter 2 introduces the key economic concepts of market power and efficiency;
- Chapter 3 describes the structure and operation of the New Zealand ports industry;
- Chapter 4 introduces the concept of the ‘market’ as an analytical device used to assess the level of competition between suppliers of closely substitutable goods or services;
- Chapter 5 examines the level of competition and performance of the New Zealand ports industry;
- Chapter 6 identifies specific customer groups for which competitive pressures on ports have been more limited, leading in some cases to the possible existence of market power;
- Chapter 7 examines the adequacy of the existing regulatory and governance structure impacting on the New Zealand ports industry; and
- Chapter 8 concludes the study.
2. MARKET POWER AND EFFICIENCY – KEY ECONOMIC CONCEPTS

2.1. THE DEFINITION OF MARKET POWER

The term “market power” is generally used in the economics literature to describe the ability of a firm to profitably charge a price above the competitive level, which is usually taken to be equal to the marginal cost of producing the product or service.

If this definition is applied literally, probably a good many firms in New Zealand have some degree of market power. Accordingly, there must be some sort of materiality threshold for market power to be of concern from a public policy perspective.

Furthermore, most firms need to incur some level of fixed costs, and the recovery of these may legitimately require charges in excess of marginal cost. This point is particularly important in the case of the ports industry where significant investments in capital and infrastructure are required, resulting in a relatively high level of fixed costs on a per unit basis. In such a case, marginal cost is an inappropriate benchmark for the competitive price level which must accommodate a reasonable attribution of fixed costs.

Technically, the ability of a firm to exercise market power depends on the own price elasticity of residual demand facing the firm. Residual demand is the market demand net of the quantity supplied by other firms. Own price elasticity is the percentage change in quantity demanded in response to a given small change in price of the firm’s own product. The lower the elasticity of demand (i.e., the smaller the quantity response to a price change), the greater the market power is.

This discussion indicates two possible approaches to identifying market power:

- Measure the difference between price and marginal cost (adjusting for the reasonable attribution of fixed costs); or
- Estimate the price elasticity of the residual demand curve.

As noted in chapter 1 of this report, we have not been asked to quantitatively analyse the extent of any market power in the ports industry. Consequently, our study has not attempted to measure the extent of any divergence between prices and costs for New Zealand ports, or to resolve issues of valuation underpinning rates of return in the industry. Rather, we have been asked to undertake a qualitative and preliminary study. Accordingly, much of our analysis has focused on identifying the factors that determine the price elasticity of the residual demand curves facing the ports.
In general, the elasticity of demand for a product depends to a large extent on how many close substitutes it has. Furthermore, demand may become more elastic over time.

2.2. **The Welfare Implications of Market Power**

Economists usually distinguish between three types of efficiency:

- **Allocative efficiency** - Resources are allocated to their highest value usage, maximising the benefit to society. An important condition for allocative efficiency is that those who value a product more than the additional cost of producing it are provided with it, and those who value a product less than the additional cost of producing it are not provided with it;

- **Productive efficiency** - Firms have the appropriate incentives to produce goods and services of the desired quality at least cost, and production activities are distributed between firms such that industry-wide costs are minimised; and

- **Dynamic efficiency** - Firms have the appropriate incentives to invest, innovate, improve the range and quality of services, increase productivity and lower costs through time.

Where a firm with market power sets a price above the competitive level, there is a corresponding loss in allocative efficiency (under-production of the good or service relative to the social optimum), resulting in a deadweight loss to society. In addition to this welfare loss, pricing above the competitive level has an income redistribution effect from the consumer to the producer.

Productive efficiency may also be distorted where a firm possesses market power. While it is the source of some debate in the economics literature, it is generally accepted that a *monopolist* can be less productively efficient than a firm in a more competitive market. In general, shareholders in a monopoly are likely to find it particularly difficult to judge managerial performance, because of a lack of benchmarks.

As the degree of competition increases, and the market power of a firm decreases, this effect will decrease. At the extreme, the economists’ model of perfect competition implies complete productive (and allocative) efficiency.

The optimal market structure for promoting dynamic efficiency is the source of much debate. However, there appears to be general acceptance in the economics literature that the prospect of profit motivates investment and innovation. Accordingly, the textbook version of perfect competition is unlikely to result in the maximum level of dynamic efficiency.
It is frequently claimed that a monopolist will “under provide” quality. It is worth noting that economic theory is equivocal on this; depending on assumptions about consumers’ preferences and production technology, a monopolist may offer too high or too low a quality relative to the social optimum.

2.3. SOURCES OF MARKET POWER

There are various reasons why a firm may be able to exercise market power at a particular point in time:

- Knowledge advantage. For example, the firm may have developed an innovative production technique that it keeps secret. Alternatively, the firm may have a patent, which offers a time-limited monopoly;

- Regulatory barriers to entry, for example, those arising from operation of the Resource Management Act;

- Product differentiation, meaning that products are not perfect substitutes for each other;

- Natural monopoly. A natural monopoly exists when market demand can be met at lowest cost by one firm because of the large fixed costs involved in production relative to the level of demand in the market;

- A merger or acquisition may eliminate an effective competitor, or increase the potential for coordinated conduct; and

- Collusion, or other anti-competitive arrangements, between erstwhile rivals.

2.4. THE VERTICAL BOUNDARIES OF THE FIRM

Vertical integration of port companies into the provision of operational port services has often been raised as a competition concern in the New Zealand ports industry. This section introduces the economic concepts associated with vertical integration in terms of the efficiency-based (welfare-enhancing) reasons that motivate vertical integration. Vertical integration issues in the ports industry are addressed again in sections 3.7 and 5.3.

A firm can arrange its relationships with others in its vertical supply chain using a variety of mechanisms, which can be thought of as existing on a continuum. At one end of the continuum are simple spot market transactions. Moving along the continuum, the transactions may still occur through a market, but the governing contracts may be longer-term. At the other end of the continuum, transactions may be arranged within the firm; in other words, the firm may vertically integrate, either backwards (i.e., to include suppliers), or forwards (i.e., to include customers).
The rationale for vertical integration or long-term contracting may be anti-competitive. For example, the purpose may be to foreclose the opportunity of competing downstream firms to purchase inputs from the upstream firm.

However, vertical integration and long-term contracting arrangements can also be efficient responses by firms to the difficulties of organising production and distribution through spot markets. In respect of vertical integration, there are broadly three potential sources of efficiencies:¹

2.4.1. Reduced Production Costs

Vertical integration may result in the downstream output being produced using fewer of the upstream outputs (i.e. less consumption of intermediate resources in production). For example, this can result from improved technical arrangements in being able to organise production within one firm at one location.

2.4.2. Reduced Transaction Costs

Interpreted broadly, transaction costs refer to the entire costs of organising economic activity. Transaction costs can be particularly important as drivers of vertical relationships when an asset is very “specific”, in the sense that its value is much greater in a particular use or relationship than in the next-best alternative. The owner of such an asset is subject to the risk of being held-up by another party. Mitigating this risk through spot markets (short-term arrangements) may prove difficult or at best costly.

For example, a port company may invest in infrastructure purposefully designed for a particular type of ship. After the port company has sunk its investment, the ship owner may refuse to pay the initially agreed access price or to meet other conditions upon which the investment was undertaken (e.g. number of scheduled ship visits).² The risk of such behaviour may result in the port company refusing to make the investment in the first place. Alternatively, if the investment is made and hold-up occurs, the port company may incur high transaction costs trying to re-negotiate or litigate regarding the price and conditions for use of the specific asset.

Long-term contracts or vertical integration may provide efficient governance structures in this context and help to spread the risks associated with investment in specific assets.


² Some in the ports industry have expressed concern that the investments being undertaken by a number of New Zealand ports to accommodate the 4,100 TEU container ships being introduced by P&O Nedlloyd could leave some ports exposed in this way.
2.4.3. Mitigating Market Imperfections

The term “market imperfections” includes the concepts of asymmetric information, transaction costs and externalities. Consider, for example, a manufacturer deciding whether to employ its own sales force, or whether to contract with an independent sales firm. If performance of a salesperson is difficult to measure (presence of significant information asymmetries) and there are high costs associated with monitoring their performance (high transaction costs), direct employment may provide the manufacturer with better monitoring and motivation tools.3

As another example, the service quality of a downstream firm might affect the demand for an upstream firm’s products. The upstream firm accordingly has an incentive to control the downstream firm’s quality decisions. The simplest way to do this may be to specify the level of quality in a contract. However, because quality may be difficult to measure, the contract may not be enforceable or particularly effective at motivating the downstream firm. Vertical integration might “internalise” this externality and prove the cheapest way to overcome the problem.

3 This is an example of a “principal-agent” problem. As used in economics, a principal-agent relationship is one in which one person (the agent) acts on behalf of another (the principal). If the incentives of the agent are not (perfectly) aligned with those of the principal, and if the principal cannot perfectly monitor the agent (or the transaction costs of doing so are high), the opportunity arises for the agent to behave in a manner that may be counter to the interests of the principal. The term moral hazard is used in economics to describe the resulting form of opportunism.
3. DESCRIPTION OF THE NEW ZEALAND PORTS INDUSTRY

3.1. INTRODUCTION

Ports are complex commercial and logistical entities that, fundamentally, are the interface between sea and land transport. Ports are an essential component of the transport links between New Zealand and its international trading partners, and in the transport links between cities within New Zealand. New Zealand has thirteen commercial seaports handling, by value, 85% of total exports and 75% of total imports; this accounts for over 99% of the total volume of internationally traded goods.4

There is an array of functions carried out within ports. To some extent, the economic structure of each port is unique in its mix of activities, cargoes handled, location, scale, and accessibility to land transport infrastructure. Ports also differ in the structure of ownership, the extent of vertical integration, and the degree of contestability in the provision of various port services.

This chapter provides an overview of the New Zealand ports industry. It describes the various activities carried on within New Zealand ports, the different types of cargoes they handle, and their geographic spread across New Zealand. The chapter begins with an overview of the substantial port reform process that began in the late 1980s.

3.2. THE REFORM PROCESS

The history of New Zealand ports is as long as the modern history of New Zealand. In a country with a traditional reliance on agricultural exports, ports have long been a central element of New Zealand’s economy. In 1867 there were around 112 ports, a reflection of the difficulties of internal transport on New Zealand’s rocky terrain. Since the First World War, the number of ports in New Zealand has declined dramatically. In 1935 fifty ports were operating, though thirteen handled 93% of total export tonnage.5 Today there are thirteen commercial ports in operation, and a handful of smaller regional ports.


From the end of the nineteenth century ports had been owned and operated by regional Harbour Boards. Objectives for ports varied under these Boards, and were often of a non-commercial nature. Ports were not generally seen as profit making or economic investments in themselves, but more as facilitators of regional development with economic benefits generated downstream. Ports were also employed to fulfil other social objectives, such as increasing local employment. It has been argued that this led to the permeation and perpetuation of inefficiencies in port operations, in the form of over-employment and over-capitalisation.

By the mid 1980s the political environment had moved away from the provision of these types of services by means of direct public control: New Zealand was entering a phase of significant economic reform, a key element of this process being the privatisation of state owned enterprises across a number of industries.

In 1987 the New Zealand Government introduced the Ports Reform Bill, which proposed the corporatisation and partial privatisation of New Zealand’s ports. The regional Harbour Boards, which were responsible for the operation of individual ports, were abolished along with the central planning body, the National Port Authority, when the Ports Companies Act was passed in May 1988. Independent port companies acquired port assets from the Harbour Boards and took over responsibility for the management and operations of individual New Zealand ports. The essence of the reform process is captured by section 5 of the Act, which states that the principal objective of each port company is ‘to operate as a successful business’.

Ownership of the port companies was initially vested in local regional councils. Accountability and transparency of port companies was encouraged by the requirement for each port company to annually disclose Statements of Corporate Intent for at least as long as each port company remained wholly publicly owned. Corporatisation was accompanied by only partial privatisation, with private ownership limited to 49%, and the balance in the hands of local authorities.

Under the reforms, each port company was expected to operate the port as a stand-alone business making corporate decisions on infrastructure investment and funding, independent of other port companies. This marked a dramatic shift from the system of central coordination where the National Ports Authority had been responsible for planning infrastructure investment throughout the national ports network.

Waterfront labour market reform occurred in parallel with corporatisation. The Waterfront Industry Commission, which had been responsible for the allocation of labour between individual ports from a common pool of waterfront workers, was abolished in 1989. Centralised controls were removed in favour of bargaining at the individual port level.
In 1990 the Port Companies Amendment Act was passed, removing ownership restrictions on port companies that had prevented full private sector ownership. Despite this, local government continues to dominate the ownership of New Zealand ports. Ports of Auckland Limited, New Zealand’s largest seaport is 80 per cent owned by Infrastructure Auckland, a statutory body. The Port of Tauranga has the largest proportion of private ownership with the local authority retaining 55 per cent of total equity. Five ports have partially floated on the New Zealand Stock Exchange, but more than a decade after the relaxation of ownership restrictions, no New Zealand port is wholly privately owned.

To place the port reforms of New Zealand within an international context, it should be noted that many countries have embarked upon port reform over the last couple of decades. There has been a marked trend internationally towards increased private sector involvement in the provision of port services. However, the nature and extent of the New Zealand port reforms can be considered to be quite far-reaching when compared to that of other countries; the exception is the UK, which like New Zealand had a very centralised ports industry prior to reform. Heaver (1995)\(^6\) noted that:

> … in most countries and especially those with local port authorities, changes in port policy have been modest. The countries in which the policy changes have been the greatest are those in which national policies exerted a strong influence on port performance. The UK and New Zealand are well known examples. (p. 125).

As we shall explain shortly, a result of these reforms is that New Zealand ports are now benchmarked amongst the most efficient and productive ports in the world. Before presenting these comparisons, we describe the functions of ports, and describe their activities along geographic and product dimensions. Chapter 4 formally defines the markets in which ports operate.

### 3.3. PORT ACTIVITIES

The various core activities carried on within a port can be broadly classified into four main groups.

**Cargo Services Provision**

- Receiving and delivery – cargoes arriving from outside the port are warehoused or stored in holding yards for aggregation prior to the arrival of the ship.

- Marshalling – this is the movement of cargo from storage to the ship’s side, including sorting and tracking of cargoes as required.

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• Stevedoring – moving cargo from the ship’s side into the hold of the ship and stowing it, and visa versa for unloading of ships.

**Infrastructure Provision**

• Channels, breakwater, locks, navigation aids.

• Berths, quays, docks, jetties, moorings, terminals.

• Superstructure, which consists of fixed assets built upon the core port infrastructure (e.g. storage sheds, office space, fuel and water facilities).

• Equipment (e.g. lifting cranes).

**Marine Services**

• Towage.

• Pilotage.

• Linesmen.

**Other (Non-Core) Services**

• Value-added services – ship servicing, logistical support for customers, container cleaning.

### 3.4. Geography

Geographic proximity is one driver of the extent to which ports are viewed by their customers as substitutable (both from the land-side and sea-side), geographic proximity is therefore one factor determining the level of competition between ports. Ports further away from exporting suppliers or from the destination of imported goods are more expensive to reach because the cost of internal transport is, *inter alia*, a function of distance. Ports physically located closest to exporters, and import destination, are, other things being equal, likely to be the customer’s port of choice.
New Zealand has a relatively high geographic density of ports. This can be traced to a number of factors, including population density, rugged natural terrain, and the ownership history of ports. The number of ports, and in some cases, the clustering of ports in major cities, means that New Zealand ports are generally within close proximity of one another. Two of the major cities in New Zealand have multiple ports: Auckland being serviced by two ports, Wellington serviced by three, each having complementary functions and common ownership.7 Even between population centres, several of the ports are within close proximity of one another, some examples being Lyttelton and Timaru, Tauranga and Auckland, Northland and Auckland, Gisborne and Napier, and Otago and Southport. The locations of New Zealand’s thirteen commercial seaports are illustrated in Figure 1: New Zealand’s commercial seaports.

The most geographically isolated port is generally regarded as Nelson. Port Nelson is the only major commercial port not connected to the national rail network, and is isolated from other ports and major cities by mountainous terrain. For these reasons, it is frequently claimed that the customers of Port Nelson are more likely to be captured. Other isolated ports include Westgate, and Port Gisborne. The effects of geographic isolation on market power are discussed further in chapter 6.

In many cases the major cargo carried through a port reflects the nature of the surrounding geography. For example, the major export cargo from the Ports of Northland and Gisborne are forestry products. The Port of Auckland, serving New Zealand’s most populated city, has imported containers as its major cargo. The foremost cargo carried through SouthPort is aluminium-related cargo for the nearby Tiwai Point smelter. These examples demonstrate the general effect of internal land transport costs on many cargoes, particularly lower value cargoes: which is to incent the owners of cargo to move their cargoes through the nearest port. As we discuss below, these internal land transport costs can be high enough to capture a customer to the nearest port.

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7 Auckland is serviced by the Port of Auckland and the smaller Port of Onehunga which mainly handles coastal ships. Both ports are owned by Ports of Auckland Ltd. Wellington is serviced by three ports: Centreport is the main port, located near the Wellington CBD, comprising a container terminal, and providing berths for the interisland ferries and most cargo ships; Burnham Wharf is located near Wellington Airport and primarily handles bitumen and aviation fuel imports; and Seaview, located approximately 15 kilometres north of Wellington near Petone, is Wellington’s main import terminal for bulk petroleum. All three ports are owned by Centreport Ltd.
3.5. **PRODUCTS**

Ports handle a range of cargoes, which can be grouped into four major categories:

- Containerised;
- Bulk (dry and liquid);
- Break bulk (conventional) – this is modular or non-liquid cargo that has not been containerised (e.g. cars or logs); and
- Other (e.g. passenger ferries).
The business of each of New Zealand’s ports tends to be dominated by a single type of cargo, although the extent of this dominance varies from port to port. For example, Port of Marlborough is dominated by inter-island shipping, Auckland is dominated by imported containers, Southport is dominated by imports and exports from Tiwai Point aluminium smelter, and Tauranga is dominated by log exports. In many cases, ports have constructed specialist facilities to handle this traffic.

We discuss the effects of the different product characteristics and how these impact the markets for port services in more detail in chapter 4.

3.6. **KEY PARTICIPANTS**

The commercial activities conducted within ports involve the interaction of a number of principal parties, including shippers, shipping lines, and the providers of port services.

- **International Shipping Operators** - Ports in New Zealand have international sea connections provided exclusively by overseas flagged vessels, many operated by large shipping companies including P&O Nedlloyd and Maersk Sealand. International vessels also carry coastal cargo when making multiple stops at New Zealand ports. Because of the complementarity of cargo and shipping lines, ports may increase the volume of cargo handled in their port simply by attracting shipping lines.

- **Coastal Shipping Operators** - These are shipping lines that transport cargo exclusively between the ports of New Zealand. New Zealand has a number of major coastal shipping operators, including Pacifica (which operates costal freighters and RO/RO vessels), Silver Fern (which transports oil and fuel in coastal tankers around New Zealand), Tranz Rail (which operates inter island ferries) and Strait Shipping. Coastal shipping was restricted to New Zealand registered ships until 1994. A requirement for companies running coastal shipping operations to be registered in the country they service is called cabotage.
• **Shippers** - As well as dealing with shipping lines, ports deal directly with customers who have cargo to move, including importers of foreign goods and domestic suppliers exporting goods to overseas markets. We collectively define these parties as ‘shippers’ of cargo. Ports have strategically focussed increasing attention on providing solutions to shippers’ problems by investing in customer-specific equipment, developing ‘inland ports’ closer to shippers’ production sites (such as Metroport⁹), and coordinating with rail and road transport to deliver a more efficient logistical package.

• **Providers of port services** - Port services are generally provided by a combination of the port company, the owner of the core port infrastructure, and independent operators. Within New Zealand, port companies have continued to be integrated in the provision of many operational port functions, but in most ports, there is a presence of independent providers particularly in services to cargo and, in some cases, marine services.

The independent provisioning of port services within New Zealand ports is discussed in section 3.7.

• **Land transport providers** - nearly all cargoes passing through New Zealand ports, whether exports, imports, or domestically traded goods, will require some form of inland transport. There are rail and trucking transport modes throughout most of New Zealand. Tranz Rail provides rail freight services throughout New Zealand and several trucking companies operate either nationally or regionally. As we examine later, land transport costs are an important influence on a port customer’s ability to substitute the services of one port for another.

• **Regulators** - Port companies are subject to the provisions of the Commerce Act 1986 and the Commerce Commission has the power to commence actions under the Act. Key sections include 27 and 36 – these are further discussed in chapter 7.

Many port functions are subject to safety regulations, including provisioning of tugs and navigation infrastructure. These regulations are administered by the Maritime Safety Authority.

### 3.7. **Vertical Integration**

Port companies can be grouped into three categories, according to the extent of vertical integration into port functions.

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⁹ Metroport is an “inland port” owned by Port of Tauranga, located in South Auckland. Using a rail link running between industrial south Auckland and Tauranga, the port is able to win business from local ports by offering a more central location in Auckland for collection and delivery of goods. Centreport operates a similar operation in Palmerston North. This form of organisation is called “land bridging”.
- **Landlord ports** - as the name implies, the port company simply owns the core port infrastructure, while port superstructure and equipment (cranes, forklifts etc.), marine services (mooring, towage, pilotage) and cargo handling services are provided by privately owned, independent operators. In most cases a landlord port company’s role will extend into port development and planning and marketing functions. Most Australian ports now operate under this model.

- **Mixed ports** - the port company goes beyond the provision of infrastructure and is vertically integrated into the provision of operational port services, often in competition with private service providers, and port superstructure.

- **Service ports** - the port company owns and operates the full spectrum of port activities including the provision of port infrastructure, superstructure and equipment and operational port services. The port company directly hires all labour to perform the port activities. This model is common under publicly owned ports.

New Zealand ports can be best described as mixed ports, with most port companies being engaged in the provision of some operational port services ranging from pilotage and towage to cargo handling and terminal operation. Operational services are generally supplied by the port company in competition with independent operators using common user facilities. Port company provision of stevedoring services and wharf operations is commonplace, particularly in relation to containerised cargoes. In some ports, port companies have formed joint ventures with independent operators in the provision of general stevedoring services. Other port services such as towage and pilotage are generally provided solely by one firm due to the high capital costs associated with these activities, relative to the level of demand in the market in question. In New Zealand, the single provider of these services is often the port itself.

A variety of arrangements are in place within New Zealand ports. Port terminals may be common user, exclusively run by the port company itself, or leased by the port to third parties. For example, CentrePort leases terminals to Pacifica Shipping, Strait Shipping, Tranz Rail, and Southern Cross Stevedores. The latter company competes directly with CentrePort’s own stevedoring operation. Common or multi-user facilities arrangements allow access for independent operators on a non-exclusive basis. For example, Ports of Auckland Limited (PoAL) exclusively operates the main port container terminal in competition with independent stevedores who operate from other common user facilities. Third party operators use cargo handling equipment provided by themselves, or hired from PoAL. Independent stevedores contract with the port company for access and with individual shippers and shipping lines to provide services.

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10 CentrePort Limited Submission, page 2.

11 Information obtained from interview with Ports of Auckland Limited, 20 February 2002.
In contrast with New Zealand ports, Australian ports are predominantly landlord ports with marine services, cargo handling and receiving and delivery being performed by independent commercial companies. Stevedores exclusively lease port terminals from the port company and provide their own superstructure and equipment. Towage and pilotage services at individual Australian ports are generally provided by privately-owned independent sole operators. Common ownership of towage operators between ports is frequent, except in the few cases where the service is provided directly by the port company. Container stevedoring at Australian ports is dominated by two private national-level providers, while general cargo stevedoring is dominated by two or three competing firms at the individual port level.

In New Zealand, the port operating the closest to the landlord model is the Port of Gisborne. Gisborne manages core infrastructure while all other services are operated by independent companies.\(^\text{12}\)

\(^{12}\)Interestingly, two of the most efficient ports in the world, Singapore and Hong Kong, operate at opposite ends of the integration spectrum: Hong Kong is operated on the ‘landlord’ model while Singapore is a ‘service’ port (Tull, Malcolm and James Reveley (2000) see note 5 above, page 9).
4. MARKET DEFINITION

4.1. INTRODUCTION

A market is an analytical device that is used to assess the level of competition between suppliers of the same, or closely substitutable, products and to determine the presence or absence of market power. The Commerce Act defines a market as:

... a market in New Zealand for goods or services as well as other goods or services that, as a matter of fact and commercial common sense, are substitutable for them.\[^{13}\]

It is usual to define markets along four dimensions:

- the characteristics of goods or services supplied and purchased (the product dimension);
- the level in the production or distribution chain (the functional or vertical level);
- the geographic area from which the goods or services are obtained, or within which the goods or services are supplied (the geographic extent); and
- the temporal dimension of the market, if relevant (the timeframe over which substitution to other options could take place or the effects of inter-temporal breaks).

In defining the relevant geographic, product, functional and temporal dimensions of a market, the test is one of substitutability on both the demand and supply sides. Demand side substitutability refers to the product or service of a supplier that is a sufficiently close substitute with the relevant product, such that in response to a small change in price, customers might be induced to switch to the other supplier. Supply side substitutability refers to the ability of firms to respond to an increase in price of the relevant product by increasing the share of that product in their production mix. The ability of customers to switch sources of supply or of producers to shift their product mix in response to a price change acts as a constraint on the pricing and output decisions of the firm. Such firms are considered to be in the same market as the firm in question.

For the purpose of competition analysis, the Commerce Commission considers that a relevant market is the smallest space within which a hypothetical, profit-maximising, sole supplier of a good or service, not constrained by the threat of entry, could impose at least a small yet significant and non-transitory increase in price, assuming all other terms of sale remain constant (ssnip test). This is another way of assessing which products and services are closely substitutable for the product or service in question. The hypothetical monopolist would only be able to impose such a price increase if all of the close substitutes (actual and potential) for the product or service have been included within the market boundary. The Commission generally considers a ssnip to involve a five percent increase in price for a period of one year.

The Commerce Commission seeks to define relevant markets in this way, and for the purposes of our study we consider the Commission’s approach provides an appropriate framework for delineating markets.

The purpose of this study is to scope the existence of market power, and we do not intend to be as definitive on market definition issues as the Commission or the Courts may be in, say, assessing a merger application or determining a price fixing case. Rather, we will employ illustrative market delineations to help identify which aspects of the ports industry, and which customer groups, may be most exposed to market power issues. In undertaking this task, we have drawn on qualitative and quantitative evidence gathered from consultations with industry participants, submissions, and relevant Commission and court decisions as referenced below.

### 4.2. **Key Products and Key Customer Groups**

The starting point for market definition is an examination of the goods or services offered by the relevant firms. Chapter 3 of this report identified several activities that ports are involved in:

- Infrastructure provision (the provision of the physical infrastructure necessary for port operations);
- Stevedoring (the loading and unloading of cargoes from ships to the wharf);
- Marshalling (moving of cargo from storage and assembly areas to the wharf ready for stevedoring and tracking via specialised IT applications);
- Receiving, delivery and unloading (basically encompassing the receiving, assembly and storage of export cargoes in warehouses or holding yards, prior to marshalling, and the unpacking of imported containers);
- Towage;
- Pilotage; and
• Support services (e.g. container cleaning).

There are two ways in which these activities may be considered. In one sense each of these activities (except perhaps support services) can be thought of as representing different functional levels in the interlocking chain of vertical activities required to run a port. While it might seem that there is some possibility for supply-side substitution between adjacent vertical activities (e.g. stevedores may be able to switch to marshalling) we understand that this is not normally the case.

In another sense, each of these activities can be viewed as complementary horizontal products, which are all required in order to provide a full range of port services. In either case, it is important to recognise that there are strong complementarities between these elements and that for a number of port users, but not all, they may need to use all of these elements.¹⁴

While strong complementarities between products can mean they are only supplied as a bundle, this is not always the case and it need not mean that each element of the bundle ceases to be in a separate product market. Product bundles (or cluster markets) can exist for a number of reasons, including: complementarities; economies of scope in production; economies in consumption (e.g. reduced transactions costs); or as a means for incumbent suppliers to tie-up customers and prevent or deter entry of new competitors. Key indicators of whether separate markets exist are the willingness of customers to purchase unbundled products and the existence of single product suppliers.

For the purposes of this study we take the view that each port activity is both a separate functional level in the vertical supply chain and a distinct product that ports can provide to customers separately.¹⁵ We will consider the product characteristics and geographic dimensions of each of these activities in turn. Before doing this though, it is worth dwelling on the heterogeneity of port customers, since the product, and especially the geographic, elements of the market can vary depending on the perspective of the port user, and the market power of ports could vary markedly depending on the “trade flows” in question.¹⁶

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¹⁴ There were differing views expressed in submissions on the nature of the relationship between the various operational port services. For example, Tranz Rail Ltd, Pan Pac Forest Products Ltd, McKay Shipping Ltd and Ravensdown Fertiliser Co-operative Ltd all considered port activities to be “discrete and independent” services. In contrast, Silver Fern Shipping Ltd and Strait Shipping Ltd considered that port activities are a “seamless service”. Cosco (New Zealand) Ltd views port activities as both seamless and separate, depending on their requirements.

¹⁵ For a similar view on functional and product markets, see Office of the Regulator-General, Victoria (1999), Review of Port Services Price Regulation – Final Report, 24 December, Chapter 5.

We identify five key groups of port customers based on the discussion of key industry participants provided in chapter 3:

- International shipping operators (e.g. P&O Nedlloyd or Maersk);
- Coastal shipping operators, including coastal tankers and inter-island ferries (e.g. Pacifica, Silver Fern or Strait Shipping);
- Exporters;
- Importers; and
- Domestic shippers (e.g. the oil companies using coastal tankers or trucking companies using inter-island ferries).

Each of these customer groups has:

- differing levels of engagement with ports (e.g. importers tend to deal with shipping companies rather than with ports whereas large exporters will deal with ports more directly);
- differing service and infrastructure requirements (e.g. in terms of berthing infrastructure and the specific stevedoring, marshalling and receiving elements required); and
- differing levels of bargaining power.

4.3. INFRASTRUCTURE PROVISION

4.3.1. The Product Dimension

As noted earlier, the infrastructure element of port operations consists of:

- Channels, breakwater, navigation aids.
- Berths, quays, docks, jetties, moorings, terminals.
- Equipment (e.g. lifting cranes).
- Superstructure, which consists of fixed assets built upon the core port infrastructure (e.g. storage sheds, office space, fuel and water facilities).

These physical assets are at the core of port operations. From the perspective of shipping lines (international and coastal) there is little scope for technical substitution for port infrastructure per se – ships must dock at wharves and use infrastructure specific to the activity of moving cargo between land and sea-based transport modes.
From the perspective of an exporter or importer, whether there is an economic substitute for port infrastructure will depend on the product being shipped and destination or origin. For example, airports may be a *technical* substitute for many products. However, in many cases airports are unlikely to be an *economic* substitute, because of the relatively high cost of air transport. The cases where air freight is an economic alternative to sea-based transport tends to be for high value goods such as clothing and footwear, and other goods for which timing of delivery is particularly important.

For the high proportion of goods imported to and exported from New Zealand using sea-based transport, there is really no economic or technical substitute to using some form of port infrastructure.

For domestic shippers, where the origin and destination of the products to be shipped is within New Zealand, then road or rail transport may be a substitute for ports. In practice, the majority of goods transported within New Zealand are carried on road or rail, rather than sea. Road and rail are generally regarded as substitutes for port infrastructure-based shipping services for many cargoes carried within New Zealand.

Regarding supply-side substitutability, it appears there are few port users or port service providers that could easily shift into the provision of alternative port infrastructure by themselves. The high fixed costs of entry (relative to the expected demand for services), generally low utilisation of assets by any single customer (particularly for smaller port users), and the specificity of assets in delivering required functionality limit this substitutability.

### 4.3.2. The Geographic Dimension

The degree of substitutability for core port infrastructure along the geographic dimension varies according to the activity of port users.
The major international shipping lines generally have opportunities to substitute between ports, especially for containerised cargoes, although this can be more limited for certain types of vessels (e.g. the new P&O Nedlloyd-operated 4,100 TEU container vessels, because of specific infrastructure requirements) and for certain types of cargoes (e.g. log exports, where there is limited opportunity to move cargo overland away from source). The relative ease for international shippers to switch between ports is illustrated by the behaviour of ports in actively competing for their business. Unlike coastal shippers, imports from overseas to New Zealand will not necessarily be required to be delivered to a specific port, with rail and road distribution carrying goods to their ultimate destination. Our investigation revealed that internal transport cost reductions achieved through containerisation, improved logistical management, and competitive pressure from other transport modes are certainly reducing dependence on specific port infrastructure for both exports and imports but there is a limit to how far this can go.

It appears that the key drivers of business for international shipping lines, such as ship operating costs and logistical and scheduling considerations, can be more important in determining choice of ports than internal transport costs or port performance and pricing. This ability to switch both export and import volumes between ports is a major driver of the countervailing power international shipping lines enjoy.

In contrast, coastal shipping lines require port access at specific geographic locations. Coastal shippers tend to move bulky, special and standard cargo types long-distances (e.g. Auckland to Lyttelton) largely in competition with road and rail, and so they need to be able to deliver close to the ultimate destinations, to avoid expensive double handling between ship and truck or train, for this to be economically viable. Within a given locality (city or province) there is generally only one port operating. Coastal shipping lines therefore face few, if any, possibilities for geographic substitution from specific port infrastructure.

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17 Submissions have pointed to falling charges for internal transport. For example, the road haulage rate for carrying a twenty-foot container between Auckland and Christchurch has dropped since 1988 from around $1200 to near $750. Coastal shipping lines have responded by offering rates as low as $500.

18 See Commerce Commission (1999) Decision No. 34: P&O Nedlloyd Limited and Tasman Express Line Limited (26 February), page 7. It was noted that the cost of transporting a container by road from Bluff to Port Chalmers was $600 while the cost of shipment from Bluff to the east coast of Australia was $1,000-1,200. In commenting on the internal costs of trans-shipment of Australian bound cargoes to Auckland from other ports in New Zealand, the Commission referred to these as “high” according to industry sources. “It has been recorded that internal trans-shipment of a container to Auckland from cities further away than Tauranga and Whangarei may add 50% or more to the cost of transport to Australia. This is largely irrespective of whether trans-shipment is by road, rail or coastal freighter.”
A similar problem arises for inter-island ferries. These provide a bridging service between islands for land transport vehicles, and require port access at the terminus of major road and rail networks as close as possible to the points of minimum distance between islands. Ports other than Centreport and Marlborough are located hundreds of kilometres away, and are poor substitutes for these services. The geographic substitution possibilities between ports are also limited for coastal tankers and other trans-shipper of bulk products that require the use of specific loading/unloading infrastructure. While trucking is an option for these shippers, sea transport brings cost savings that generally makes internal land transport an inferior choice.  

**Domestic shippers**, that is, cargo movers within New Zealand, have, in a technical sense, substitutes for port infrastructure by geography. Access to alternative port infrastructure may be via road and rail links. However, if a shipper is not using the nearest port for access to sea-based transport around the country then it is likely that the mode of transport for the whole trip will be road- or rail-based.

**Importers** generally have substitution possibilities, though in actuality the biggest single proportion of imports are destined for Auckland as the country’s major population, manufacturing, and transport distribution centre. These imports enter either through the Ports of Auckland or Port of Tauranga. The competition and switching of import volumes observed between these two ports, following the development of Metroport by Port Tauranga, suggests a high degree of substitutability for Auckland-bound imports. For imports being delivered directly to other parts of the North Island or the South Island, the choice of port will usually be restricted to that closest to the ultimate destination in order to remain competitive with road or rail distribution from Auckland.

The degree of geographic substitutability **exporters** enjoy is dependent on a number of factors, which are listed below.

19 In their submission, Silver Fern Shipping Limited quotes the following distances that 1 cent will move 1 litre of fuel: Ship 800 kilometres; Rail 200 kilometres; Truck 100 kilometres. The submission points out an adage in the transport of oil is “maximise shipping, minimise road”.

20 The competition between Ports of Tauranga and Auckland for imported volumes was noted by the Importers Institute at our interview on 19 February 2002.

21 The Importers Institute (interview 19 February 2002) stated that geographic captivity of importers occurs. For example, Lyttelton does not compete with Auckland for imported cargo, suggesting substantial or prohibitive land transport costs in importing goods through ports a significant distance from the ultimate destination of the cargo. However, the two largest importers, Auckland and Tauranga, clearly compete for imported cargo volumes.
The nature of the product being exported, in particular the unit value of the product, is a key determinant of the possibilities for geographic substitution. Lower unit values of product (with corresponding low absolute profit margins per unit) limit the distance these products can be economically transported. Export products beholden to nearby ports because of their low absolute profit margins include logs and cement.

The packaging of cargo affects transport costs. Containerised cargo is generally cheaper to transport than bulk or break bulk. Lower transport costs expand the range of geographic substitutes.

Access to economically feasible land transport. Most commercial ports are connected to both road and rail networks. Port Nelson is without national rail connections, and is separated from other ports by mountainous terrain. For these reasons many exporters from Nelson are regarded as having weak opportunities for geographic substitution and in some cases may be captured. Nelson’s isolation is far from complete, however, and we have received evidence of switching of higher-value cargoes between Port Nelson and competing ports. Geography and lower quality roads also isolate Port Gisborne, and we understand that the port has not used the available rail network for two years. In addition, the port mainly exports forestry products from its immediate hinterland, which tends to favour export through Gisborne rather than through other ports further away.

This can be seen in two ways. Cargoes for which land transport costs make up a smaller percentage of total cargo cost (assuming equal percentage mark-up and similar per unit transport cost) have a greater capacity to bear the additional costs of land transport to an alternative port. Put another way, high value cargoes, for a given mark up, have a larger absolute profit margin per unit, which can more easily absorb the additional land transport costs.

Given practical limits on the types of products that can be containerised (especially liquefied products such as crude oil) and the different transport economics applying to containerised and bulk products, the Commerce Commission has suggested that containers may form a separate product market in regard to shipping. We have sought to deal with this issue through the recognition of different types of port users, some of which are more reliant upon containerised cargoes and so have wider geographic options.

Specific examples of switching of volumes between Port Nelson and other ports are discussed in Chapter 5.

In our telephone interview with Port Gisborne on 27 February 2002 it was noted that 95% of the cargo Gisborne exports is forestry-related, and that only 18% of exporter forestry cargo is processed. In our telephone interview with Port Nelson on 4 March 2002 a similar story emerged. The majority of cargo handled is forestry related, with the majority of that cargo being lower absolute margin wood chips and logs. Nelson also stated they encouraged coastal shipping connections at their ports to offset the competitive detriment of lacking rail connection, the effect of which would be to reduce the port’s effective isolation.
Opportunities to alter product characteristics and expand the effective range of port alternatives. Some products with limited possibilities for geographic substitution may be altered in some way and have their inherent value increased or transportability improved, or both. An example of this is the processing of logs into higher value forestry products before transport to a port for shipment. The enhanced value of the product carried, and the ability to transport it more cheaply in containers, expands the opportunities for geographic substitution.

Transport logistics influence the degree of geographic substitution of port infrastructure by exporters. Fonterra has demonstrated how this can operate in the export of dairy products. The nearest physical port to dairy production is not always preferred to more distant ports because of logistical considerations such as arrangements with land transport providers, the balance of container traffic, port performance and special customer requirements, and the realisation of economies of scale by concentrating export cargo to a single port and quickly filling ships. Fonterra points to total export costs as the relevant variable to be minimised, which is not unconditionally correlated with minimising land transport costs.

4.3.3. Conclusion on Infrastructure Provision

To summarise, port infrastructure is a distinct element in the delivery of port services. For the export and import of most products there is no economically viable substitute to sea-based transport and, therefore, to using port services.

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26 A second option log exporters face is to delay felling of trees. This temporal – as opposed to geographic – substitution is discussed further in Chapter 6.

27 The value added to logs by processing can be substantial. Using updated information from the Ministry of Agriculture and Forestry website (www.maf.govt.nz), first presented in Commerce Commission, Decision 453: Port of Tauranga Limited and Owens Services BOP Limited (8 February 2002), page 21, we calculate the following export values per cubic metre: Logs and poles $115.48; Sawn timber $515.45; Wood pulp $851.64; Paper and newsprint $1,191.17; Fibreboard $491.67; Plywood $1,500.91; Particleboard $655.31. These figures suggest processing can raise unit values of forestry products by a factor of at least four and up to ten times or more. To the extent that the increased value of product per unit reflects an absolute increase in economic margin per unit, these products will be economically transported greater distances. This relationship between product value, product margin, and geographic hinterland is borne out by experience: while many contend low-value logs are often geographically captured to their nearest port, few would argue that the cost of transporting a high-value case of wine to a more distant port is prohibitive. The experience of Port Nelson, which competes with Auckland for wine exports, suggests a national geographic market for such high-value products.

28 Information received from interview with Fonterra Co-operative Group Ltd, 21 February 2002.
The geographic dimension applying to any particular set of port infrastructure will vary depending on the customer group in question. For shipping lines, it is hard to be definitive but it appears that international shipping lines have wider geographic options than domestic shippers requiring specific port access in order to compete with road or rail (as with coastal freighters) or to be able to offer the service in the first place (as with inter-island ferries).

For imports, the bulk of these come into the Auckland area in the first instance, either through Ports of Auckland or Port of Tauranga, and are then distributed locally or transshipped by road, rail or coastal shipping to the rest of the country. Smaller ports further from Auckland would tend to have a much smaller hinterland for distribution of imports, confined more tightly to the nearby city or province.

For exports, the catchment area of port infrastructure varies depending on a range of factors, including the nature of the goods in question, mode of carriage (e.g. container or bulk) and the logistical issues linked to the size and sophistication of the exporter.

For high volume/low value bulk products (e.g. logs) or pallet products (e.g. some kiwifruit exports) geographic options are limited by the cost of internal transport and perishability. This gives nearby ports in effect a natural catchment area; which we understand to be in the radius of 100-150 kms depending on the product in question and nature of transport networks. While some ports may draw in contestable bulk or pallet cargoes from a wider radius, say a further 50-100 kms, in competition with other ports, a natural catchment would still apply to cargoes originating from within the 100-150 kms radius.29

For higher value products and containerised cargoes this catchment area can be much wider, tending to favour those larger container ports or port infrastructure providers that benefit from scale and logistical chains involving key internal transport operators, international shippers and exporters. Ports of Auckland’s extensive catchment area for containerised exports attests to this, as does the flow of containerised dairy exports through Tauranga from substantial parts of the North Island. Key rail and road routes can also extend the natural boundaries of ports just as poor roads or lack of rail connections can provide a natural zone of protection to smaller ports.

29 This is based on materials provided at our meeting with the New Zealand Shipping Council (see map of stylised catchment areas supplied by Fred Staples in Pan Pac Forrest Products Limited Submission, page 15). In Commerce Commission, Decision 424: Carter Holt Harvey Limited and Norske Skogindustrier Asa (21 March 2002) it was noted “for every 100 kilometres transported, freight costs for logs amount to $13-$14 per tonne. Current delivered prices for pulp logs are approximately $40-$50 per tonne” (page 16). From this it is clear that the natural catchment areas for lower value products must be locally confined.
4.4. **Cargo Services**

As noted in chapter 3, the provision of a full range of cargo services at ports consists of three elements – marshalling, stevedoring and cargo receiving and delivery.

At the margin, it is conceivable that there could be some substitution between these activities such that, for example, marshalers could undertake stevedoring and vice versa. However, we understand from our investigations that this is generally not the case and that these activities should be seen as separate complimentary elements of port operations. The use of different (specialised) equipment, work practices and skill sets are key differences between stevedoring, marshalling, and receiving and delivery. Even within marshalling and stevedoring there may be further specialisation depending upon the product and packaging in question. A stevedore’s skill in efficiently positioning logs into a ship’s hull of asymmetric shape may offer little indication of his ability to operate the heavy machinery required for marshalling.

4.4.1. Marshalling

Marshalling (at port) is the movement of cargo, either direct from other transport modes or from storage areas, to the ship’s side so that it can be stevedored. Marshalling can also involve the stockpiling, assembling and sorting of cargo. In the case of log marshalling, for example, this also involves the selection of logs for specific shipments in accordance with shippers’ instructions, and the logging and tracking of those shipments. Container marshalling involves the movement and preparation of containers for loading using specialised equipment such as straddle cranes and forklifts, and the tracking of individual containers via specialised IT applications.

In **product** markets, we take marshalling to be a separate activity from stevedoring with further specialisations depending on the type of export goods being marshalled.

The Commerce Commission recently considered this issue in clearing the acquisition of Owens Services (a company with substantial log marshalling interests) by Port of Tauranga, and their comments on market definition for log marshalling and stevedoring are instructive:

> *All parties interviewed accepted that stevedoring and marshalling are quite different activities, with the former in particular being quite specialised. The efficient loading of logs into an irregularly shaped vessel hull requires specific expertise in order to be able to maximise stowage rates.*

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In addition, the capital requirements are quite different. Log marshalling requires capital-intensive heavy loaders. For example, the Commission understands that the three main brands of loaders – Komatsu, Wagner, and Caterpillar – each cost up to $1.5 million per unit. However, in relation to logs, stevedores operate cranes affixed to the ship.\(^{32}\)

Given the need for proximity to port infrastructure, the geographic market for marshalling is confined to the port in question.

In conclusion, we view marshalling as a distinct upstream activity from stevedoring, which, like stevedoring, has a localised geographic dimension.

### 4.4.2. Stevedoring

Along the product dimension stevedoring encompasses the task of moving cargo from the ship’s side into the hold of the ship and stowing it. Stevedores may be hired by shipping lines or shippers to move cargo between dockside and the ship, and vice versa, and to ensure that stowage of cargo is efficient.

The extent of demand-side substitutability is limited to a choice of competing stevedoring firms at the location of the port infrastructure. Larger ports in New Zealand typically have three or more competing stevedoring firms available for port users, often including a port-owned or sponsored stevedoring operation.\(^{33}\) On the demand side, no alternative port activity can be said to substitute for the physical loading and unloading of cargo between dockside and ship’s hull – this is an essential and distinct port activity.

On the supply-side, stevedoring is a labour intensive activity with reasonably limited costs of entry, especially where equipment (cranes, etc.) are the ships own or where access is available through multi-user arrangements. In discussions with major port users it has been suggested that entry into stevedoring is a feasible option for them in situations where the performance of existing stevedores is unsatisfactory. Ports themselves are either involved in stevedoring directly or can enter relatively easily and quickly if necessary (this applies also for marshalling and cargo receiving and delivery).

On the geographic dimension, the key question is to what extent can stevedoring services from another port be thought of as substitutes?

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\(^{33}\) By sponsored entry we refer to a firm at one functional level (e.g. a shipping line) inducing or backing a firm at another functional level (e.g. a stevedoring company) to enter into the provision of port services by making conditions more conducive to entry. For example, a shipping company may enter into a long-term contract with the sponsored stevedoring company to exclusively use their services for a set time period, inducing the stevedore to enter the market. Sponsorship usually occurs where the sponsor is dissatisfied with the current level of pricing or service in the market and is an alternative to vertical integration by the sponsor itself.
Since stevedoring is one of a number of complementary activities carried out by ports at a particular infrastructure locality, it is unlikely that a five percent increase in stevedoring charges (snip) would lead to substitution between ports. As a matter of common sense, the relatively minor increase in total costs most port users would face from an increase in stevedoring charges would be unlikely to induce a switch to an alternative port. For this reason we conclude substitution between stevedores does not generally take place along the geographic dimension, and is localised to the port infrastructure in question.\(^{34}\)

We conclude that stevedoring is a distinct product market consisting of the efficient loading and unloading of ships onto the dockside at the port. The geographic dimension is confined generally to be at or near the port infrastructure location.

### 4.4.3. Receiving and Delivery

Receiving and delivery involves the loading and unloading of cargo to or from road and rail vehicles, counting and recording of cargo moved, provision of bulk warehousing and storage facilities (for dried or perishable goods) at or near the port infrastructure, along with distribution services and container loading. In a vertical sense this is one stage prior to marshalling for exports of goods moving onto the docks. Cool storage facilities are particularly important for highly perishable products such as dairy or fruit exports that require a cold storage chain from farm gate to supermarket shelf.

In the product dimension, receiving and delivery is made distinct from other labour-intensive port operations by the need for specific technology to count stock moving into and out of the port. These systems are generally customised for the port and sufficiently specialised to inhibit substitution of labour on the supply side. Despite this, stevedoring companies are involved in receiving and delivery in some ports, for example Ports of Auckland. Most ports companies carry out receiving and delivery, some in competition with third party providers.

Receiving and delivery is one of a number of complementary activities in ports. Like marshalling, it comprises a small share of the total costs port users face. We do not consider that a small but significant price increase in receiving and delivery would, on its own, induce a port’s customers to move to another port. We consider the geographic market for receiving and delivery is limited to the port in question.

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\(^{34}\) It should be noted that key port customers have flown in stevedores from one port to another from time-to-time, especially to smaller ports. We understand from our investigations that the key motivation for this was either to load a specific shipment in the face of capacity constraints on stevedoring operations at the smaller port or to fully utilise stevedoring labour that was otherwise under-utilised at their home port, rather than changes in stevedoring costs at the smaller port.
In conclusion, a distinct market for receiving and delivery at each port is decided on the basis that it is a specialised activity requiring dedicated systems, and because of its localised geographic market.

4.5. **MARINE SERVICES**

As noted in chapter 3, towage and pilotage are often referred to as marine services or “wet services”. Our discussions with market participants suggested these are, however, distinct product elements.

The issue of whether marine services are a bundled product or rather separate complementary elements in the provision of port services has been addressed by the courts in New Zealand, which reached the view that they are in separate product markets.

In *Commerce Commission v Port Nelson Limited* [1995] 6 NZLR 406, Port Nelson Limited argued that pilotage and tug services provide an integrated service and therefore should be considered to form one product market. However, the High Court rejected this argument, stating that there “are dangers in a process which combines different commercial activities into one composite market simply because of complementarity” (p. 520). The High Court found there to be three relevant markets:

- the provision of pilotage services for vessels entering, moving within, and departing from the compulsory pilotage area at Port Nelson;
- the provision of tug services for vessels entering, moving within, and departing from Port Nelson; and
- the provision of port services and facilities for vessels calling at Port Nelson (this market encompassed all other port services discussed above, including infrastructure services).

The Court of Appeal upheld these findings.\(^{35}\)

Our definitions of pilotage and towage services are similar to that adopted by the High Court and Court of Appeal. We regard the third category identified by the courts as being too broad for the terms of this particular report, and have disaggregated this.

4.5.1. Towage

All commercial ports in New Zealand operate tugs. Tug provision at each port is determined on the basis of the largest movement that is required to be handled.\(^{36}\)

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\(^{35}\) *Port Nelson Ltd v Commerce Commission* [1996] 3 NZLR 554.
As noted by the High Court in *Port Nelson v Commerce Commission*, the market for towage is sufficiently distinct from other port operations to justify defining a separate market. In the **product** dimension and from the supply-side, towage is distinct from other activities because of the specialised equipment required, and the specific training required to operate it. From the demand side, as the Court of Appeal in *Port Nelson v Commerce Commission* held in deciding to define separate markets for towage and pilotage, “no one suggests tug services and pilot services are substitutable”. It was also noted that while towage and pilotage are complementary, not every port customer requires both—or either—services. For example, inter-island ferries generally have no requirement for either tugs or pilots, while Pacifica shipping have no requirement for pilots as they employ ship captains who are qualified to pilot (pilot-qualified).

Using the same test as that for stevedoring and receiving and delivery, we consider it unlikely a customer will switch ports due to a small, sustained increase in the price of towage. Consequently, we define a **geographic** market that is specific to each port. While individual tugs can and do operate in multiple ports over time, the utility of the services provided by that equipment is specific to the location of the tug at its time of use.

Given the ‘thinness’ of operations at most ports in New Zealand, we consider there to be little scope for inter-firm competition for tug services within a port: utilisation rates would be uneconomically low at all but the busiest ports. As we discuss in chapter 5, where intra-port competition is not viable, competition for the market through competitive tendering can provide competitive tension on a periodic basis. Alternatively, the port company itself may choose to vertically integrate into the provision of tug services.

### 4.5.2. Pilotage

Pilotage is the control of a ship by a qualified person within a defined range of a port. The essential element of a pilot’s value lies in his knowledge of the harbour being navigated. Coastal operators including Pacifica and the inter-island ferries, who visit their ports of call frequently, generally employ pilot-qualified captains as a cost-saving measure. Pilotage is a complement, rather than a substitute, of towage.

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38 Tranz Rail’s masters on its inter-island ferry operation have pilotage exemption. (Tranz Rail Ltd Submission, page 2). Pacifica stated that they only require tugs on occasion and simply pay the standard tariff per use. Tugs may be required, for example, to berth in bad weather at the master’s discretion, to berth in the event of a mechanical problem, or going into or out of dry-dock. (E-mail from Pacifica Shipping Ltd, dated 27 March 2002).
Like other port activities, pilotage is an activity that has specific labour requirements and some specific capital, in the form of a pilot boat, generally a small vessel for ferrying pilots to and from vessels. In the product dimension and from the supply-side, we again note a distinct market for pilotage because of the lack of economic substitutability of equipment and, in particular, labour between pilotage and other port activities.

Along the geographic dimension, pilotage is location-specific. Pilots are employed for their local knowledge; a pilot without harbour-specific knowledge is of little use. Thus we define the geographic market for pilotage to be particular to each port.

Pilots are generally employed or sponsored by the ports at which they operate. Two exceptions are at Nelson, where Tasman Bay Marine Pilots Limited operates independently and in competition to Port Nelson pilots, and Port Gisborne, where a third party is the sole employer of pilots operating out of that port.

4.6. Support Services

In addition to the above, ports also proved a range of other services to support their customers – these do not easily fit into the functional breakdown adopted above. These services include:

- Container services, which involves the washing, maintenance and repair of empty containers. These services are provided by both port companies and third parties;\(^{39}\)
- Storage and handling of empty containers, which requires provision of specific stacking equipment;
- Linesmen, who secure the ship to the wharf; and
- Ship servicing, including provision of water, electricity, and telephone lines, rubbish collection and incineration.

These services are necessary to provide full service support to port customers. Again, these services are complementary between themselves and with other port activities described above, and, as circumstances dictate, each may justify identification of distinct markets. For the purposes of our study, and given the lower materiality and relative importance of these activities in terms of the totality of port services, we have grouped these support services into a single product market for ease of exposition.

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These services are taken to have a common geographic boundary, which is confined to the port in question.

In summary, we find that the market for support services is distinct and complementary from other services. The market for these services at each port is limited to the port where the services are required. For convenience and because of the wider scope of this project, we bundle these ancillary services into a single market.

4.7. CONCLUSION ON MARKET DEFINITION

We have defined a range of product markets for port services based upon functionally distinct activities in the chain of production for port services. For each of these product markets we have taken the geographic market dimension to be localised to the port in question, except for port infrastructure services.

For port infrastructure the geographic market varies depending on the nature of the customer groups in question, whether they be international or domestic shipping lines, or importers, exporters or domestic trans-shippers. Geographic catchments can vary within each of these customer categories. For example, with exported products geographic definition varies widely depending upon the “trade flow” in question and logistical considerations. For low value (low absolute profit margin) bulk products this may be as small as a 100-150 km radius around a port. For containerised or high value products this may be much further, with large container ports such as Ports of Auckland or Port of Tauranga drawing in container traffic from much of the North Island and beyond.

The nature of road and rail transport and local topography obviously affect catchments, with more isolated ports enjoying a degree of natural protection for their catchments. Examples of these are Nelson and Gisborne. Examples of ports extending their catchments based upon inter-port competition, scale and improved logistical links with land transport providers and key exporters are Port of Tauranga, especially in relation to Auckland, and more recently Timaru in relation to Lyttleton.

Port companies as infrastructure providers also differentiate their product in other ways apart from geography (e.g., the types of cargo they cater for, the type and timing of liner services they attract, and the extent of vertical integration at the port). Ports can therefore be thought of as being product differentiating oligopolists. The industry is oligopolistic since there will generally only be a few providers of port infrastructure services in New Zealand, given the high fixed costs of establishing a port relative to the size of the market. Differentiation means that any two ports are not necessarily perfect substitutes for each other even if geography was not any issue.
While differentiation may steepen a port’s residual demand curve and enhance their market power, differentiation also offers more choice and value to customers along a number of product dimensions (e.g. location, service levels, specialist equipment for certain cargoes, choice of cargo handling operators, etc).
5. COMPETITION AND MARKET POWER

5.1. INTRODUCTION

This chapter describes and assesses the various forms of competition occurring within the markets defined in chapter 4. The various competitive forces that act to constrain the behaviour of ports are analysed allowing an assessment of the extent of market power, if any, in the New Zealand ports industry.

In Practice Note 4, the Commerce Commission notes that the antithesis of market power is competition: where there is effective competition in a market, there must necessarily be an absence, or at most an insignificant amount, of market power.\(^{40}\) The approach taken in this chapter is to identify the competitive pressures acting on ports and the markets to which those forces apply. In the markets where ports face competitive pressures, they will generally lack (material) market power. In chapter 6 we will discuss those markets in which competition is limited, where ports appear to enjoy market power, and identify those customer groups affected.

The first part of this chapter examines the market operation in terms of inter-modal substitution, inter-port and intra-port competition, potential entrants into the industry, and the countervailing power of port users. The second part examines the incentives port companies face to vertically integrate into the provision of operational port services and the potential impact on efficiency. Finally, we describe the outcomes achieved by New Zealand ports, including the key factors of price, service quality, and speed, among other performance measures.

In the following analysis, except where stated, we concentrate on the markets for infrastructure provision. These are the markets identified in the Report of the Shipping Industry Review as being of concern. Where the markets for stevedoring, marshalling, receiving and delivery, towage, pilotage, and support services are addressed it will be explicitly stated.

5.2. COMPETITIVE ANALYSIS

Port services generally face competitive pressures in a variety of ways. These include:

- Inter-port competition;
- Intra-port competition;
- Inter-modal substitution;

• Threat of entry; and
• Countervailing power of port customers.

We discuss each of these in turn.

5.2.1. Inter-port Competition

Inter-port competition is a process which occurs when a user of port infrastructure has an economically feasible substitute for those facilities in another location. It is the most pervasive form of competition occurring in the ports industry, and a function of the characteristics of the cargo being moved, the location and distance of movement, and the methods of transport available. Ports compete with each other in the provision of infrastructure on a number of planes, including price, service and quality, frequency of ship calls, ship capacity, and availability of national and international destinations. Ports compete for business from both shipping lines and cargo shippers directly.

Inter-port competition is mainly confined to the market for infrastructure services, although clearly the pricing and service standards of other port services will impact on the ultimate choice of port. The other markets identified in chapter 4 (stevedoring, marshalling, etc.) generally have more limited geographic hinterlands (i.e. confined to be at or near to the port infrastructure in question).

Competition Components

Inter-port competition is, by definition, a function of the ability of port customers to substitute between ports. The ability to switch ports is dependent on a matrix of interlocking factors. These factors include:

• Internal land transport cost, which is a function of:
  • Distance to port; and
  • Cargo-specific transport costs per tonne per kilometre.

• Economic margin of the product being transported, that is, the value of the cargo after production costs have been subtracted. Economic margin tends to be lower on an absolute basis for products with a low unit value such as logs and cement. Lower absolute margins limit the ability of these products to bear land transport costs, and therefore limit the ability of customers to substitute ports.

• Logistical factors, including:
  • timing and availability of road or rail connections;
  • use of product-specific transport and loading infrastructure (e.g. tankers and pipelines); and
- economies of scale and network effects in loading larger ships, encouraging hubbing and expanding the effective size of a port’s hinterland.

- The relative price/quality mix offered by the individual port, including:
  - Port charges, service quality, frequency of ship calls, ship capacity, and connections to national and international destinations.

Exporters and importers focus on the minimisation of total supply chain costs, meaning that, in some cases, it will be more efficient to use a port other than that in closest geographic proximity.\(^{41}\)

New Zealand’s relatively high density of ports is conducive to inter-port substitution by port users. Tull and Reveley (2000) consider New Zealand ports to be subject to more inter-port competition than their Australian counterparts, with a lower proportion of captive cargo, in part attributable to port density.\(^{42}\)

Customers transporting higher value cargoes are generally in a better position to switch ports, having a greater capacity to bear land transport costs as compared to lower value cargoes which will usually have more limited port choices. An exception occurs where low value products are sourced or produced near the juncture of two or more port hinterlands.\(^{43}\)

**Evidence of Inter-Port Competition**

Inter-port competition becomes visible when customers switch cargoes to alternative ports. Switching of ports by customers demonstrates that, for these customers at least, there exists geographic substitutes for port infrastructure. It should be noted that an absence of switching does not necessarily indicate a lack of inter-port competition. Many port customers may have feasible alternatives but be satisfied with the price and quality mix of their current port.

Our investigation has uncovered widespread competition between ports for cargo capable of being shipped through any one of a number of ports.

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\(^{41}\) The Carter Holt Harvey Lodestar submission noted “the critical element in determining the choice of port is the need to put a competitively priced product into an international market place. Therefore the port choice is a consideration in the context of the total supply chain costs and is not necessarily driven by the cost of the port per se.” (page 3)

\(^{42}\) Tull, Malcolm and James Reveley (2000) see note 5 above, page 6.

\(^{43}\) The ability for shippers of low value cargoes to switch between ports when they are sourced near junctures in port hinterland is noted in Commerce Commission, Decision 453: Port of Tauranga Limited and Owens Services BOP Limited (8 February 2002), page 12. Silver Fern Shipping Ltd also points out in their submission that for a “small percentage of total oil deliveries” overlapping port hinterlands allow port substitution.
The best example of inter-port competition is the tussle for containerised cargo which has recently developed between Auckland and Tauranga. The geographic market for containerised cargoes is very broad. For example, Ports of Auckland states that it is actively competing for container volumes from all areas of New Zealand, including the bottom of the South Island. Tauranga has openly competed for, and in many cases won, Auckland cargo. An intensification of that competition occurred upon the opening of Tauranga’s inland port (Metroport) in June 1999, located in the Auckland metropolitan area. The catalyst for the development of Metroport was the enticing of a major shipping line, Australia-New Zealand Direct Line, away from Auckland. As a result, Tauranga was able to attract an additional 50,000 containers per annum equating to ten percent of Auckland’s total container traffic. Ports of Auckland has responded by proposing the formation of inland micro-ports located around Auckland. As we shall discuss below, the recent development of inland ports is an example of vertical integration by ports back up the distribution chain, as ports attempt to capture increasing volumes.

There are numerous other examples of inter-port switching. Lyttelton reports losing significant volumes of containers to Timaru, and Port Chalmers further south. Lyttelton attributes this to both service and price considerations. Rapid container growth and recently-won Fonterra dairy export volumes has contributed to the resurgence of Port Timaru in the past five years.

A combination of relatively higher value products, with the lower transport costs of carrying standardised, easily-stored cargo without the need for warehousing, allows containers to substitute between ports equipped with container handling facilities.

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44 This is partly corroborated by CentrePort Limited, which notes in its submission “Ports of Auckland Limited has a major share in the Wellington area for containerised cargoes” (page 3).
47 Lyttelton Port Company Limited Submission, page 3.
48 The Port of Timaru’s success in winning volumes away from Port of Lyttelton is noted in the submission by Carter Holt Harvey Lodestar (page 6).
49 Eleven of New Zealand’s thirteen commercial ports have a container terminal.
The export of dairy and meat cargoes from Southland provides an example of the importance of logistics factors in driving inter-port competition. Despite SouthPort being the closest in proximity to meat and dairy production facilities in Southland, we understand that approximately 80% of Southland-produced meat and 90% of Southland dairy products are transported through Port Otago or Lyttelton in order to catch more regular shipments.\(^{50}\) In its submission, SouthPort reports handling around 8,000 containers per year, with a further 30,000 containers originating in the Southland region being exported through Ports of Otago, Timaru, and Lyttelton.\(^{51}\) SouthPort’s experience demonstrates the strong complementarity between cargo and shipping services: cargo will come when the shipping services are provided, and shipping lines will arrive when cargo is available. Feeding off this circularity, we understand that ports looking to attract regular services will, on occasion, offer to ship certain cargo for charges near cost in order to attract shipping lines, which in turn will attract additional cargo for which standard fees can be charged. A key focus of the vigorous inter-port competition for container cargo between Tauranga and Auckland was attracting a major international shipping line, which Tauranga did by setting up Metroport.

This complementarity is further demonstrated by a recent switching of cargo between Port Nelson and Lyttelton. When an overseas shipping service moved from Port Nelson to Lyttelton, cargo volumes moved with it. Particleboard produced in Rangiora, about 30 kilometres from Lyttelton and over 300 kilometres from Nelson, was previously trucked to Nelson for export. Following the shipping service’s shift to Lyttelton, the particleboard is now sent to Lyttelton for export.\(^{52}\) This example also shows that Nelson, traditionally regarded as being an isolated port whose customers are mostly captured, does compete with distant ports for the shipment of higher value products. Despite its distance from other ports and its lack of a rail connection, Nelson faces switching of export cargoes with ports as far away as Auckland\(^{53}\). Other evidence includes Nelson attracting Marlborough Sounds mussel exports from Lyttelton and some Marlborough wine volumes from Auckland\(^{54}\). Nelson has also lost some timber exports to Port of Marlborough because of the development of facilities at Port Marlborough, and road congestion

\(^{50}\) Information from SouthPort New Zealand Ltd telephone interview, 28 February 2002.

\(^{51}\) SouthPort New Zealand Ltd Submission, page 2.

\(^{52}\) This information was sourced from an interview with the New Zealand Shipping Federation, 21 February 2002, and Port Nelson Ltd telephone interview, 4 March 2002.

\(^{53}\) This information was sourced from a telephone interview with Port Nelson Limited, 4 March 2002.

\(^{54}\) \textit{Ibid.}
near Port Nelson.\textsuperscript{55} This is not to say that there are no captured customers of Port Nelson, these examples simply illustrate this capture does not seem to extend to higher value products. The geographic hinterland for port infrastructure for high value products such as wine and mussels appears to extend over much of New Zealand.\textsuperscript{56}

**Drivers of Inter-Port Competition**

A number of economic factors underlie inter-port competition, including:

- High fixed costs of port operations;
- Falling internal transport costs;

\textsuperscript{55} In an e-mail received on 27 March 2002, Port Nelson Ltd CEO Jim Williamson writes on the contestability of log exports from Port Nelson: “Port Marlborough's recent $25 million development of Shakespeare Bay is a significant new parameter in the export of logs from the top of the south. It is the deepest heavy duty berth in the entire Country at 16 metres. It has associated with it something like 12 hectares of contiguous adjacent storage land. Contrast this with our 9.5 metres of draft adjacent to a relatively light weight wharf and 7.5 hectares of small parcels of log storage scattered about all over our reclamation. Whereas almost all our logs have to be loaded onto road trucks for the move from storage to ship, Marlborough can make much more use of heavy log loaders for directly loading ship. Ship size is also a difficulty that we face with our draft considerations.

These relative disadvantages for us can quickly turn into price factors for the exporters and shift the balance more in favour of Marlborough. The sort of historical traditional pattern we have seen is two port loads where the bulk of the load would be taken on here and a top up taken on board at Picton. Often logs from the outer Marlborough sounds would be barged round here for off loading rather than being fitted in to what was essentially a ferry port. With their new wharf and with increasing harvest in the Blenheim/Marlborough region itself the picture may be gradually reversing.

A further competitive danger comes from Shakespeare bay in that it changes the status of Picton from simply a ferry port (with a few cruise vessels and itinerants) to potentially an international port taking some of our hard won regular cargo away. Already the opportunity is being taken to load sawn timber and other wood related products onto chartered log ships. At the moment we get quite a lot of sawn timber exports over from the Kaituna Sawmill and others at Blenheim to go out from here. If a suitable International shipping company decided to call at Picton we would lose that cargo. Because of all this competitive threat from over the hill, we are busily going for some more draft, we are trying to consolidate our log storage adjacent to the wharf and we are considering rebuilding our log wharf for a heavy duty deck. - all at immense cost.”

\textsuperscript{56} Simon Terry Associates (STA) “Portly Charges”, part of the submission by the Port Company Reform Working Group, presents a detailed analysis of market share changes over time by product (pages 39-57). The report concludes that, in spite of large increases in total commodity volumes handled by ports since corporatisation, any increase in inter-port competition has not significantly affected market shares of ports in handling commodities. This result is based on analysis of volumes measured by weight. Given the high level of product aggregation in the analysis, and no obvious distinction between high- and low-value product categories, the findings of STA are not inconsistent with the movement of high-value, low-volume cargoes like wine and top-end seafood between ports discussed above. Furthermore, some low-value, high-volume products, such as forest product exports, do exhibit substantial changes in market share that are actually observed in some categories, we are comfortable that the STA analysis does not contradict our finding of an extended geographic hinterland for higher-value products. A separate analysis of the submission by STA is included in chapter 6.2.2.
• Increasing containerisation; and

• Other factors

We discuss each of these below.

Fixed Costs Of Port Operations

High fixed costs as a proportion of total port costs make port profits particularly sensitive to shifts in cargo volumes and asset utilisation. Port companies consulted during this study informed us that fixed costs comprise as much as 60% of total port costs. Port revenue is generated largely via handling fees, and these are generally charged on a per unit or a per visit basis, so as port volumes grow, revenue grows approximately proportionately. With a high proportion of costs that are fixed, total costs will grow at a slower rate than revenues, increasing port profitability as volumes increase. Where fixed costs are almost two thirds of total costs, profit becomes exceptionally sensitive to volumes.

Port users consulted during the study suggested that New Zealand ports have low utilisation of assets and excess capacity. The effect of low utilisation combined with high fixed costs is to further enhance the potential for competition. The sensitivity of the relationship between volumes and profit combined with spare capacity to handle extra volumes provides ports with a strong incentive to secure additional shipments, stimulating inter-port competition.

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57 Commerce Commission, Decision 453: Port of Tauranga Limited and Owens Services BOP Limited (8 February 2002), page 23.

58 We define fixed costs here as ports-related costs that are invariant to the volume of cargo carried.

59 The submission by Silver Fern Shipping Limited notes wharfage rates are driven by weight or volume, as opposed to fixed fees (section 1 page 11). Pacifica Shipping Ltd stated that at most ports currently visited, and throughout Pacifica’s history, port charges have been based on volume (interview 18 February 2002).

60 A numerical example helps illustrate profit sensitivity when fixed costs are a high proportion of total costs. Start with a business in which fixed costs comprise 60% of total costs, that is, as business volumes increase only 40% of total costs increase proportionately. Assume that profit margin for the business starts at 8%, which is to say that profit divided by total accounting costs equals 8%. Now increase volumes by 5% and assume that the price charged for additional volumes stays constant. This implies that total revenue will also increase 5%. However, total costs increase less than proportionately, since 60% of total costs are fixed. This means that as volumes and revenues increase, costs increase more slowly and the gap between revenue and cost, that is, profit, increases. Under these conditions, a 5% increase in volume for a firm with 60% of total costs fixed will increase profit by 43%.

61 Kent & Ashar (2001), see note 16 above, regarding low utilisation as an indicator of competitiveness in their modelling of port competition.
Falling Internal Transport Costs

Trace (1997) notes that as internal transport costs fall, alternative ports increasingly become economic for port customers, enhancing inter-port competition. For low value products, on which transport costs can quickly become prohibitive, reductions in land transport costs can be especially effective in increasing the range of available port options, particularly in New Zealand where port density is high.

Land transport costs have fallen dramatically in New Zealand in the last fifteen years. For example, the cost of moving a container between Auckland and Christchurch has fallen from around $1200 to as low as $500. The effect of this has been to further intensify inter-port competition.

Increasing containerisation

Standardised containers are inexpensively transported and efficiently stored relative to other methods of cargo carriage. Accordingly, containers are regarded as being highly contestable between ports. Ports of Auckland, which owns New Zealand’s largest container terminal, outlined to us the increasing role of containers in transport:

- 7% of apples were containerised five years ago, now 45%;
- 10% of processed timber was containerised three years ago, now 26% (due to increased processing);
- 20% of onions was containerised three years ago, now 50%; and
- 50% of world traffic was containerised three years ago, now 55%.

Given the already high level of inter-port competition for container volumes, as containerisation increases we would expect a further strengthening of inter-port competition.

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63 Further evidence is provided by the historical review of Tranz Rail provided in New Zealand Institute for the Study of Competition and Regulation Inc (1999), The Privatisation of New Zealand Rail Part 1: Assessment of History, Markets and Data, Report to the Treasury. After deregulation of the road transport industry in the 1980s, a price war between road and rail freight operators broke out and freight rates declined for both modes of transport.

64 These figures are approximate and were provided in an interview with Ports of Auckland Ltd.
Summary

Inter-port competition is mainly confined to the markets for port infrastructure. The existence of this form of competition is demonstrated by switching of cargoes between ports. Inter-port competition is more intense for higher value cargoes, as the geographic market for port services is larger for these products. While land transport costs are an important variable in selecting a port, logistical factors may dictate that a port other than the nearest is chosen.

Inter-port competition is enhanced by the presence of fixed costs in port infrastructure. These fixed costs, combined with volume-variable fees, produce a highly sensitive relationship between profit and volumes. Small changes in volumes carried can have a substantial impact on port profitability, meaning significantly higher returns for ports winning new volumes.

To the extent that port users may substitute between ports, they are shielded from the exercise of market power by ports. This section has presented evidence that such a choice is demonstrably available for shippers of higher value and containerised products, and for some shippers of lower value products, depending on geographic position and logistical factors. Furthermore, we expect that inter-port competition will continue to improve with falling land transport costs and increasing containerisation and act as an increasing constraint on market power of ports.

5.2.2. Intra-Port Competition and Competitive Tendering

Competition at the individual port level principally occurs in two ways:

- Intra-port competition: which refers to competition between the providers of port services for which there are multiple competing firms within the port; and

- Competitive tendering (or ‘competition for the market’): where there is competition between service providers bidding to be the provider of services under a long-term contract.

Intra-port Competition

Unlike inter-port competition, which occurs between individual ports, intra-port competition occurs between the providers of particular services within an individual port. Port companies may be amongst those firms competing with third party operators of port services (e.g. stevedoring or marshalling). Like inter-port competition, the level of intra-port competition within a port can affect pricing and service standards of port services and will impact on the ultimate choice of port-by-port customers.
Intra-port competition is strongest in the markets for stevedoring and marshalling, and is apparent in the markets for receiving and delivery at some ports. In only very few instances has intra-port competition been seen in the markets for pilotage and towage in New Zealand. Intra-port competition for the provision of port infrastructure is more common in larger international ports, and there are few examples of this form of competition within New Zealand ports.

Where intra-port competition (and competitive tendering) is absent for a particular port service, the port company tends to be the monopoly supplier. All port companies in New Zealand own and control the majority of their port infrastructure and the majority own their own tugs and directly employ the pilots. Although there has been a recent trend towards greater use of third party provision of towage and pilotage services. Fewer port companies monopolise receiving and delivery, and no port company monopolises stevedoring or marshalling operations within their ports. Where there is scope for competitive provision the market has generally responded. The vertical integration of port companies into operational port services is discussed in detail in section 5.3.

**Competitive Tendering**

Where fixed costs are substantial relative to the level of demand for a particular port service, but not necessarily sunk, an alternative approach undertaken by port companies is to periodically tender for service provision. Long-term contracts are generally tendered for services with monopoly characteristics, that is, services optimally provided by a single firm within a given port. For example, it is a widely-held view within the industry that, because of limited ship visits, the need for coordination, and indivisibilities of capital, towage services at most New Zealand ports are best provided by a single operator. Tendering for contracts of finite length for the provision of such services is a competitive mechanism used by some ports in these circumstances.

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65 Port Nelson has had competing pilot services for some years and there have been recent initiatives to establish a competing pilot service in Napier. (Port Nelson Ltd Submission, page 3) Port Marlborough has competing pilotage services (McKay Shipping Ltd Submission, page 9).

66 Port of Gisborne contracted out its towage and pilotage services to Adsteam Marine Ltd in 1999.

67 This information was provided by ports in telephone and personal interviews.


69 For example, in its submission, Silver Fern Shipping points out that the minimum number of port visits capable of economically supporting a tug operation is 200 visits per year. This is referred to in the submission as ‘critical mass’ (section 1, page 8).
An example of tendering in the market for harbour towage has occurred at Port of Northland. Silver Fern Shipping Limited (then Coastal Tankers Limited) put out a tender for towage and pilotage services in the late 1990s. Up until that time Port of Northland had, like most ports, supplied marine services within their port to Silver Fern. The port lost the contract to independent provider NorthTug, owned by Ports of Auckland. The effect on the Northland port company was dramatic: 75% of marine services revenues were lost overnight.

**Drivers of Intra-Port Competition**

In observing where intra-port competition occurs, and where it does not, it appears that there is an inverse relationship between the fixed costs of providing the service relative to the level of demand for the service in question, and the level of multi-firm or intra-port competition. This relationship can be thought of as a continuum.

At one extreme where fixed costs are lowest, as in stevedoring and marshalling, we see multi-firm competition within almost every port. As fixed costs increase relative to demand for the services in question, the feasibility of having multiple firms providing these services declines, as in the markets for receiving and delivery. As fixed costs rise further, the nature of competition – if it occurs at all – changes from a multi-firm competitive structure (intra-port competition) to contesting of longer term contracts (competitive tendering). At this point on the continuum the fixed costs of establishing the service are very high relative to market demand, although, as in the case of harbour towage, these costs may not be sunk if the key assets are moveable, reusable and have a healthy re-sale market (as with tugboats).

**Use of Intra-Port Competition**

Intra-port competition is largely welcomed by port companies, who recognise it as a process for improving efficiency in internal port operations, and, consequently, enhancing their inter-port competitiveness. Ports have generally encouraged the entry of firms into markets for stevedoring and marshalling in an attempt to maintain a competitive advantage.

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70 Silver Fern Shipping Limited Submission, section 1.


72 Not all ports encourage intra-port competition. Port Otago employs the labour in most activities of the port because of economies of scope in their operations. Port Otago believes that the benefits of intra-port competition are outweighed by the benefits of being able to efficiently organise labour between multiple activities at different times, enhancing labour utilisation. This is further discussed in section 5.3. This information was provided in the Port Otago Ltd telephone interview, 6 March 2002.

73 As we noted earlier, the complementarity of port operations means that many port customers see ports as providing a seamless service. Ports therefore have an incentive to ensure all elements of that service are efficient. Encouraging competition and the discipline that can come with it has been an important part of ports’ strategies for development.
Port users also welcome intra-port competition, as a means of maintaining service and price at competitive levels. Port users may sponsor the entry of a competitor if, in the view of those users, the concentration of one firm in port operations becomes excessive.\(^{74}\)

For example, we understand that the entry of Quality Marshalling into Port of Tauranga in 1991, and the success it quickly enjoyed, was due to dissatisfaction with the incumbent operator and a guarantee by port users that the entrant would be provided with substantial business upon entering.\(^{75}\) In its submission, Silver Fern Shipping notes that it encouraged the entry of a competing company of linesmen at Centreport.\(^{76}\) According to the New Zealand Stevedoring Employers Association, port users may also invest in competitive tension at a particular port by continuing to employ an otherwise unemployed stevedoring firm, so as to maintain the competitive presence of that stevedore in the port.\(^{77}\)

**Summary**

Intra-port competition primarily affects the markets for stevedoring, marshalling, and receiving and delivery.

The level of intra-port competition for a specific port service is related to the fixed costs of start-up relative to the size of demand for each market. Intra-port competition is more prevalent in the markets for which fixed costs are relatively low, and limited in markets where fixed costs are higher or sunk, or both. The benefits of intra-port competition are well-recognised by both ports and port users, who generally encourage competition between service providers within ports. For ports, this is in aid of improving inter-port competitiveness. For port customers, intra-port competition is fostered in aid of lowering service costs and raising performance. Given the observed degree of intra-port competition, virtually no market participants have argued that stevedoring or marshalling firms have market power.

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\(^{74}\) See Commerce Commission, *Decision 453: Port of Tauranga Limited and Owens Services BOP Limited* (8 February 2002), page 19.

\(^{75}\) In its submission, Carter Holt Harvey Lodestar records its support of the entry of Quality Marshalling at Tauranga: “[I]n Tauranga CHH encouraged competition by supporting the establishment of a second log marshalling company…the ongoing benefits from the competitive tensions create value for the user” (page 13).

\(^{76}\) Silver Fern Shipping Ltd Submission, Section 1, page 16.

\(^{77}\) From interview with New Zealand Stevedoring Employers Association, 20 February 2002.
Where fixed costs are high relative to demand, the competitive tendering process can be effective in engendering competitive tensions. It is difficult to see that providers of port services who are required to periodically competitively bid for provision of the service at a port have significant market power, provided that pricing and service requirements are tightly specified by the customer. However, competitive tendering is not adopted by port companies in every case. Intra-port or tendering competition does not occur in the provision of port infrastructure, or in the markets for towage and pilotage in which port companies choose to operate themselves and without competitive tender.

### 5.2.3. Inter-Modal Competition

Ports are hubs in logistical transport systems in competition with one another; ports are necessarily a part of a transport system that involves the movement of goods between land points via sea-based transport.\(^{78}\) To the extent that the sea-based transport competes with road and rail transport, ports will face inter-modal competition. Port companies have submitted that the prices charged by alternative modes of transport have an influence on setting of port charges.\(^{79}\)

For port users moving cargo within New Zealand, perhaps prior to export overseas from a port elsewhere in the country, there will usually be a choice over the mode of internal transport. Competing domestic transport modes consist of airfreight, road, rail and coastal shipping. Airfreight, being a relatively expensive transport mode, is generally only suited to a small proportion of high value, low volume, time sensitive cargoes. For most shippers, the choice will be between rail, road and coastal shipping. Shipping, and therefore port services for which shipping is complementary, is at an inherent disadvantage to road and rail within New Zealand. Travel time between Auckland and Christchurch is approximately 50% longer over sea, compared to road and rail.\(^{80}\) Consequently, 85% of cargo moved from Auckland to Christchurch is carried via road or rail (with an inter-island crossing included), as opposed to via coastal shipping.

While the establishment of inland ports has enhanced inter-port competition, they have also acted to increase inter-modal competition. Inland ports have captured volumes from road-based transport. Centreport reports it has received complaints from road transport operators over the competitive charges offered by Centreport Palmerston North.\(^{81}\)

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78 Heaver (1995) see note 6 above, page 127.

79 Business New Zealand Submission, page 5.

80 Offsetting the relatively low speed of shipping is its favourable cost. According to the submission from Silver Fern Shipping Limited (section 1, page 5) the cost of moving one unit of oil one kilometre are four times higher for rail than for shipping, while road costs are eight times higher than shipping. For customers with a choice of transport modes, there exists a trade-off between cost and speed.

81 Comments received from Centreport Limited, 30 January 2002.
Summary

Ports are only one step in the chain for internal shippers, and it is unlikely these charges will, on their own, substantially influence the choice of transport. However, to the extent that substitution has actually occurred between modes, inter-modal competition acts as a constraint on the market power of ports.

5.2.4. Threat of Entry

In this section we discuss the markets in which the threat of entry exists, and the discipline this threat imposes on market participants.

Generally economists regard a competitive market as being characterised by the reasonably free entry and exit of competing firms.\(^{82}\) Certain aspects of the ports industry are characterised by high fixed costs (relative to demand). The economics literature shows that economies of scale per se are not barriers to entry. However, the presence of significant sunk costs may deter entry by:

- Adding to the costs that an unsuccessful entrant must bear to exit; and
- Permitting an incumbent to credibly commit to an entry deterrence strategy.

For example, in the market for the provision of port infrastructure, the construction of a new container terminal involves significant fixed costs which are also largely sunk. Once the terminal infrastructure has been built and put in place, its value for alternative uses is far less than for its primary purpose. In contrast, the market for the provision of towage services involves a high level of fixed costs but a low level of sunk costs. This is due to the absence of port specific infrastructure for the provision of towage and the existence of an international second hand market for used tugs. Because of lower exit costs, and in spite of the presence of fixed costs, entry into the towage market is relatively more free than entry into core port infrastructure provision.

It should be noted that the prospect of potential entry is often critical to the structure and dynamics of the market, even if entry never actually occurs. When firms that are as efficient as other firms already in the market face entry barriers, incumbent firms may be able to exercise market power.\(^{83}\)

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82 A perfectly competitive market is characterised by nil entry and exit costs. We acknowledge that, in practice, a level of entry and exit costs will exist in any market but these are not ‘barriers to entry’ per se.

Firms operating in the market for stevedoring services enjoy little protection from entry. Cargo shippers spoken to in interviews have stated that it would not be difficult to establish a rival stevedoring operation should existing stevedoring firms fail to provide adequate service. A number of port companies have entered the market for stevedoring services in their own ports, to compete alongside independent stevedores, in an effort to improve performance. For example, Ports of Auckland entered the market for the stevedoring of cruise ships, competed charges of the existing stevedore down by around 30%, then exited the market after two years. More recently, a new entrant, Mainland Stevedores, established operations in the South Island.

The markets for provision of marshalling have relatively free entry, in spite of what are often significant start-up costs in obtaining the hardware necessary to carry out many marshalling operations. The up-front cost of entering marshalling may be measured in the millions of dollars, depending on hardware requirements. The substantial cash costs of entry may be reduced or even eliminated by the ability of entrants to hire the required hardware from other marshellers or specialist firms.

It is worth noting that both stevedoring and marshalling face some economies of scale at low volumes, meaning that for a firm to be economic a minimum level of business is required. This can be mitigated where entry is sponsored by port companies or users.

Entry need not be permanent to have a constraining effect of the behaviour of firms in a market and is a common method of improving performance, or strategically competing with opponents. Temporary entry is used at times by ports companies, independent port operators, and port users.

The market for towage is also subject to entry, in spite of the natural monopoly characteristics of the market at ports with lower numbers of ship visits. As noted above, competition in towage may come about via tendering of fixed term contracts. An example of tendering for towage occurred at Port Northland in 1998, where the port lost a contract to provide marine services to Silver Fern Shipping. Similarly, Adsteam Marine entered the towage market at the Port of Gisborne under a long-term contract in 1999.

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Entry in competition with an existing provider may also be feasible at larger ports. We note the attempted entry of Howard Smith, an Australian towage company, into Ports of Auckland. According to Ports of Auckland, Howard Smith assessed the profitability of entry into the Port of Auckland market for towage and decided not to enter based on the incumbent’s competitive level of pricing. A general view in the industry is that most ports in New Zealand do not get the numbers of ship visits required to support more than one tug operation, with the possible exception of Auckland.\(^{85}\)

Port infrastructure is subject to the threat of entry, although in the small New Zealand market, with high port density and spare capacity, there is obviously a limit to how far this can go. Apart from the high capital costs, obtaining the necessary resource consents was noted in several submissions as being a major impediment to the establishment of new ports. Trace (1997) notes, in spite of economies of scale and high, and partly sunk, fixed cost of entry, potential entry of container terminals acts as a threat to existing terminals.\(^{86}\) New technology is lowering the cost of entry into capital-intensive port infrastructure.\(^{87}\) With entry costs reduced, competitive pressures arising from potential (or actual) entry are increased.\(^{88}\)

There are a number of recent examples of entry in the markets for port infrastructure:

- A new deep water wharf at Marsden Point has been developed in a joint venture by Ports Northland, Port of Tauranga, and Carter Holt Harvey. This wharf will replace the Port of Whangarei which is silting-up and will eventually close;

- Port of Marlborough has developed a deepwater port in Shakespeare Bay for forestry products and other bulk commodities; and

- Tauranga added the Sulphur Point wharf.

Our investigation has revealed a number of possibilities for infrastructure development:

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\(^{85}\) Tugs operating at New Zealand ports are already reported to be handling less ship movements per tug per annum than most ports in other countries. See Office of the Regulator-General, Victoria (1998) page 64.

\(^{86}\) Trace (1997) see note 62 above, page 150.

\(^{87}\) An example of technology driving cost reductions in port infrastructure is in container cranes. Old-technology fixed container cranes cost approximately $12 million. Deck strengthening to support those cranes may cost another $12 million. In contrast, the current cost of a mobile container crane is approximately $5 million. In addition to their lower cost, these cranes can handle non-containerised cargo and, unlike older fixed container cranes, can be moved to other berths.

\(^{88}\) Heaver (1995) see note 6 above, page 126.
• Tranz Rail has obtained resource clearance to develop Clifford Bay in competition with Port Marlborough. Tranz Rail were open about using the threat of entry of a terminal at Clifford Bay in fee negotiations with Port Marlborough;

• Tranzrail is possibly able to construct a terminal at Centreport;\(^{89}\)

• An alternative site for a port in Nelson has been identified\(^{90}\); and

• A new port at Tolaga Bay to handle forestry products is in the development/feasibility stages.\(^{91}\) The port would compete with the Port of Gisborne.

Entry into the provision of port infrastructure, particularly in the case of establishing a new port, involves significant risk given the large sunk costs involved. As a result, the provision of port infrastructure is necessarily less contestable than operational port services. New port development is often driven by the sponsorship of key port users, for example, Carter Holt Harvey in the case of Marsden Point, and Tranz Rail in the case of the proposed development at Clifford Bay.\(^{92}\)

**Summary**

The threat of entry by efficient firms is recognised by economists as a powerful force in disciplining existing operators. The effect of entry, either real or threatened, on performance of existing firms is well understood by participants in the ports industry. We conclude some functional levels of the industry (e.g. stevedoring and marshalling) are characterised by relatively low barriers to entry, with entry placing an important constraint on the market power of port service providers. While at other levels (e.g. provision of infrastructure), although there is potential for entry, factors such as indivisibilities of capital, and the relatively high density of port infrastructure in New Zealand, mean that the threat of entry is less effective in constraining incumbent providers of infrastructure.

We discuss situations where port companies and other providers of port services are less prone to threats of entry in Chapter 6.

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\(^{89}\) The ability of Tranz Rail to develop a terminal at Centreport is disputed. This is discussed further in Chapter 6.

\(^{90}\) The private initiative to develop this site was stalled due to the inability to secure its targeted cargo trade – see Port Nelson Ltd Submission, page 3.

\(^{91}\) The Dominion, 25 March 2002, page 11.

\(^{92}\) There are examples of other port customers being involved in the feasibility stages of new port development. Specific details, including the particular companies involved, was submitted on a confidential basis.
5.2.5. Countervailing Power of Port Customers

Many customers of ports enjoy countervailing power that can act to constrain the potential exercise of anti-competitive behaviour by port companies. Countervailing power arises from a number of sources, including customers with:

- a high share of a port’s total business;
- the ability to easily substitute to other ports;
- the ability to vertically integrate forwards or backwards to provide the port service(s) itself; and
- the ability to add costs to ports or harm them in other ways.

In some cases, port customers possess more than one of these attributes and enjoy substantial countervailing power.

One group of customers possessing substantial countervailing power is international shipping lines. This is increasingly so with the consolidation activity in international shipping. These shipping lines include P&O Nedlloyd and Maersk Sealand. The countervailing power of international shipping lines is brought about by a number of factors. The cargo these shipping lines bring into the port often comprises a substantial share of a port’s business, and so they can have a large impact on the revenues and profits of the port. Furthermore, international shipping lines generally have a choice of ports to visit in New Zealand and can openly play ports off against each other in negotiating schedules and fees.93 It is also arguable that large shipping lines would be well placed to integrate into providing their own port facilities.

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93 For examples of the approach taken by international shipping lines in negotiation with ports, see National Business Review, 15 February page 8, and Dowd and Fleming (1994), Port Pricing, Maritime Policy Management (21, 1, 29-35).
International shipping lines exercise countervailing power by negotiating lower fees, and in some cases simply refusing to accept increases in port charges. Some ports have reported signing long-term contracts with international shipping lines, only to have negotiations recommenced at the behest of shipping lines a few months later. In some cases, shipping lines have used the threat of eliminating the port from their call schedule to lever negotiations. Ports regularly invest substantially in infrastructure in attempting to win international shipping lines’ business. An example is the recent investment of $200 million by Ports of Auckland upgrading facilities to handle P&O Nedlloyd’s new 4,100 TEU container ships.\textsuperscript{94} This investment, some of which is sunk, has been made without guarantees from P&O Nedlloyd over whether it will include Auckland in its New Zealand schedule of stops.

Other port customers enjoy a degree of countervailing power. Major exporters (e.g. Fonterra and Carter Holt Harvey) have countervailing power due to their size, value to ports and, particularly, their ability to shift cargoes to other ports. These companies strategically maximise their countervailing power by demonstrating their ability to substitute between ports. For example, the Commerce Commission in Decision 453 notes:

\begin{quote}
[A] number of parties have commented that major exporters, as well as the main shipping lines, often split their export volumes between several ports in order to maintain some competitive constraint on the port companies.\textsuperscript{95}
\end{quote}

Clearly, the customers’ threats of substituting ports are more credible when such behaviour is observed.

Many port customers are small and, arguably, have limited countervailing power against larger ports. A strategy undertaken by some small customers has been to co-ordinate with other small customers of the port and operate as if they were a single larger purchasing entity. This larger body may enjoy a degree of countervailing power.\textsuperscript{96}


\textsuperscript{95} Commerce Commission, \textit{Decision 453: Port of Tauranga Limited and Owens Services BOP Limited} (8 February 2002), page 22.

\textsuperscript{96} An example of such co-ordination occurred in 1998 when the Westgate Port User Group was formed in support of Methanex’s fees dispute with that port. This group was comprised of a number of smaller customers of Westgate, and withheld payment of fees from the port until a more favourable settlement was reached. We discuss the circumstances of the Methanex case further in Chapter 6. In a second example of co-ordination between port customers, CHL Lodestar submitted that Port of Tauranga was constrained from imposing large across-the-board price increases in 1996, due to the coordinated pressure of the port’s major customers. (Carter Holt Harvey Lodestar Submission, page 13)
Summary

Large players in the New Zealand ports industry, in particular, international shipping lines and large exporters, enjoy a high degree of bargaining power in their dealings with ports. This is primarily due to their large trade volumes and the ability to switch volumes between ports. Where countervailing power can be exercised, it is an important source of competitive pressure on port companies and other port service providers, and delivers favourable outcomes for these groups of port customers. Generally, smaller or captured customers of ports will not enjoy much countervailing power and must rely on other competitive forces to constrain the behaviour of ports.

5.3. NEW ZEALAND PORT STRUCTURE AND PERFORMANCE

5.3.1. New Zealand Port Structure

Ports operate in a dynamic commercial environment where business is regularly won and lost. Like any businesses operating in a commercial context, it would seem logical that ports have structured their operations efficiently to minimise costs, maximise returns and effectively manage commercial risk.

Horizontal integration within the New Zealand ports industry is very limited, with ownership across ports remaining diverse.97 Vertical integration of ports, however, is more pronounced in New Zealand. The level of vertical integration has attracted much comment and has been raised as a concern by some port users. As noted in Chapter 3, the vertically integrated nature of New Zealand ports is the most obvious way in which New Zealand ports differ from Australian ports.

We address the issue of vertical integration in this section, asking the key question of whether it is a rational and efficient organisational structure for New Zealand ports. We conclude that it appears to be rational, and in most circumstances delivers benefits to both port companies and their users.

97 There is some limited common ownership of ports. Port of Tauranga has entered a joint venture with Port of Northland and Carter Holt Harvey in the development of a new terminal at Marsden Point. Carter Holt Harvey’s submission also comments on a joint venture between Ports of Auckland and Lyttelton, but this is limited to the provision of information technology (Carter Holt Harvey Lodestar Submission, page 10).
Reasons for Vertical Integration

As noted in chapter 2, economists have distinguished three broad motivations for vertical integration by firms – namely, to reduce production costs (technological economies), to reduce transactions costs/risks encountered through using spot markets (transactional economies), and mitigating market imperfections such as information asymmetries, and externalities.\(^{98}\)

Within New Zealand, the degree of vertical integration varies widely between individual ports. At one extreme is Port Otago, which has made a conscious decision to operate most activities on-port. At the other extreme is Port Gisborne, where nearly all operations are carried out by third parties (only four of approximately 45 port workers are employed by the port company). As noted in Chapter 3, New Zealand ports can be generally characterised as ‘mixed’ or ‘full service’, as opposed to Australian ports, which are generally operated under the ‘landlord’ model.

The main drivers of vertical integration in the New Zealand ports industry are described below.

Small Scale and Economies of Scope

A key driver of vertical integration in the provision of port activities is the incentive to minimise costs. In ports with small-scale operations and indivisibilities in labour and capital, resources may be left under-utilised where firms are independently engaged in separate but related port activities. Utilisation may be improved by the sharing of resources, in terms of labour and capital, between port activities. The costs of sharing resources between separate firms using spot markets or short-term contracts, that is, via market exchange, may be substantial, and even prohibitive. Resources may be shared and these transaction costs avoided by the vertical integration of a firm into various port activities.

Port Otago, for instance, is characterised by a high degree of vertical integration. This has not always been the case – five years ago the port had a range of third party operators working at the port and, according to port management, was “highly divisionalised”. Because of low cargo volumes, the port has found that utilisation of labour can be improved by the sharing of labour between activities. Port Otago has effected labour sharing through vertical integration (owning virtually all the labour), and in the process eliminated what would otherwise be significant transaction costs of frequently contracting with separate legal entities to redistribute labour within the port.

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Economies of scope are strongest when cargo volumes are small and lumpy, and required labour is limited. In these circumstances there are significant opportunities for increasing labour utilisation. Small and lumpy cargo volumes are an aspect of port operations peculiar to smaller New Zealand ports, driven by the number of ports and the limited ship visits each receives. These are not the characteristics of the major Australian ‘landlord’ ports: the port of Melbourne handles fifteen times more cargo than Port Otago by volume, and 29 times by value. It would seem vertical integration driven by economies of scope is more suited to Port Otago than Melbourne.

Disciplining Competition and Maintaining Reputation

Ports have found that, at times, intra-port competition has not been fully effective in raising the performance levels of operators within the port, and this has adversely impacted on their standing with key customers.

For example, Centreport had four independent stevedoring companies operating at the port but was dissatisfied with their performance. To the port company’s concern, ineffective competition was resulting in poor service to its customers. Centreport responded by entering the market for stevedoring operations itself – vertically integrating – and competing alongside existing operators, stimulating internal competition and raising performance. This is a pattern seen frequently in the industry, particularly in activities with low entry costs.

As noted earlier, small port size relative to fixed costs of entry tends to favour single operator provision of towage operations at New Zealand ports. The vertical integration of ports into this product market, in preference to tendering the service to third party providers, is driven in some cases by a desire to maintain control over costs and quality in this functional element of port operations. The rationale is that a low quality provider has the potential to negatively impact the overall price and quality of the basket of services the port is providing to key customers. Ports that favour vertical integration argue that there are risks involved in contracting out marine services to a third party that cannot be adequately controlled under a contract for services. Additionally, monitoring such contracts takes specialist expertise that smaller ports may not have, and there may not always be a large field of bidders for a competitive tendering process.

From the perspective of the port company, this can be managed by integrating into the provision of the service themselves. However, this is not the view of all port companies. Some ports now contract out marine services to third parties. Given the nature of the service in terms of high visibility and relatively low frequency of service performance, it is difficult to see how price and service quality could not be adequately controlled under a contract with the port company.

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100 Another example is the entry of Ports of Auckland into stevedoring of cruise ships to drop prices of the incumbent before exiting.
Reducing Customer Transaction Costs

A recent trend is for port companies to be vertically integrating backwards into the chain of distribution as freight forwarders. The clearest examples of this development include Metroport, operated by Port of Tauranga in Auckland, and Centreport Palmerston North. Port of Tauranga’s recent acquisition of Owens Transport, a key log marshalling and transport company, is another example of this drive to capture further volumes.

Inland ports operate as “one-stop shops” for shippers, who might otherwise be required to organise land and sea transport independently. Ports are competing for cargo by vertically integrating back up the logistics chain, and so reducing transaction costs for port customers.

Logistics and Co-ordination of Activity

Some of New Zealand’s container ports have vertically integrated into the provision of stevedoring based on logistical reasons. The rationale provided by port companies is that co-ordination between stevedoring and other port activities is a key driver of port efficiency.

For example, Ports of Auckland own and operate stevedoring operations at the Auckland container terminal. They claim that co-ordination with other activities and within the stevedoring operation rule out the use of third parties in the main container wharves. 101

Efficiency of Vertical Integration

Vertical integration is efficiency-enhancing when carried out in response to the types of issues raised above, in the sense that the total cost of delivering a given bundle of port services in the circumstances described is likely to fall as a result of integration.

101 Ports of Auckland claim that the provision of container stevedoring services by a single operator is standard practice around the world. Note that this view was disputed in an interview with the New Zealand Stevedores Association. Five other stevedoring parties operate on other wharves at Auckland.
An efficiency-destroying effect of vertical integration occurs where a port company uses its integrated structure to cross-subsidise between its competitive and non-competitive activities. The risk of cross-subsidisation is viewed as so great by some port users that it is argued that New Zealand ports should be operated on the ‘landlord’ model. Under this model the role of the port company would be limited to core port functions with other services provided by independent third parties. Such a structure would remove the risk of internal cross-subsidy.

A critical factor in the ability of port companies to successfully cross-subsidise port activities is the presence of high barriers to entry for the provision of the service that provides the subsidy. If entry barriers are low, third party entry will occur, driving price down to the competitive level and destroying the subsidy. As we discussed above, we consider that there are few barriers to entry over the longer term in most markets, except perhaps for port infrastructure provision itself. To the extent that this observation is true, the ability of vertically integrated ports to cross-subsidise activities will be limited outside of infrastructure provision. Further, to the extent that inter-port competition is increasing, fees for port services that are highly distorted can be disciplined by customers switching to other ports, where intra-port competition or long-term contracting has ensured competitive provision of that port service.

If port companies are seeking to cross-subsidise activities then they will naturally attempt to maintain this cross-subsidy by increasing barriers to entry in the provision of the less contestable service. This has occurred in ports in New Zealand in the past:

- In 1990 Port Nelson was found to have breached section 36 of the Commerce Act by bundling access to equipment such as forklifts with wharf access; and
- In 1995, Port Nelson was found to have breached section 27 by offering a discount on port services if all services used were obtained from the port company, and a second breach of that section by pricing pilotage below cost for the purpose of substantially lessening competition. In that case Port Nelson also breached section 36 by forcing the bundling or “tying” of pilots with tugs.

For example, the risk of cross-subsidy by vertically integrated port companies is noted in the submission by Polarcold Stores Limited (page 4). Polarcold note that in their negotiations with Port Otago over establishment of a cold store on port land, the port company would not allow a third party to operate independently. Rather, the port company insisted on a joint venture arrangement with Polarcold. We note in a footnote on page 50 the approach to vertical integration the port company has undertaken.
In each of these cases, the port constructed barriers to entry for the purposes of lessening competition in the provision of port services. As noted here and as we discuss in Chapter 7, erecting barriers to entry, at least in the form of predatory pricing and bundling of services, is prohibited by law in New Zealand. Ports engaging in this behaviour have been reprimanded in the courts.

Summary

We find that there are efficiency-enhancing reasons for New Zealand ports to be vertically integrated.

The small scale of operations in many New Zealand ports implies that the benefits of labour specialisation may be outweighed by the costs of under-utilisation. At these small ports, it pays to improve utilisation by sharing labour across port activities. Vertical integration by port companies avoids regular and expensive inter-firm market exchanges of labour.

Other reasons for vertical integration include ensuring adequate pricing and quality by correcting for market imperfections where competing firms have gradually slipped into less competitive work practices (at least in the view of the affected port companies), and winning custom by presenting “one-stop shops” to shippers in the form of inland ports and freight forwarding services.

While vertical integration gives rise to the potential for cross-subsidy, the exercise of this type of pricing behaviour is constrained by the reasonably free entry that we consider exists in many, if not most, of the markets ports operate in. The Commerce Act has been used to protect port users from this form of anticompetitive behaviour.

5.3.2. New Zealand Port Performance

Introduction

Most major port users, and those international benchmarking studies we have been able to obtain, report that service quality and price for New Zealand ports compare favourably with overseas counterparts. In the literature, the port and labour reforms of New Zealand are highly regarded for their success in raising performance of port operations. Other countries have failed to achieve the same gains despite economic reform.

We have located only limited information on international benchmarking of ports. This reflects, amongst other things, the inherent difficulty of comparing the diversity of services ports offer in the face of very different mixes of port activities.
Benchmarking Results

The most recent and comprehensive document comparing New Zealand ports with those overseas is the 1998 report *International Benchmarking of the Australian Waterfront*, produced by the Bureau of Industry Economics (BIE, which is now part of the Productivity Commission) in Australia.\(^{103}\) The Bureau carried out a benchmarking study on pricing at a number of world ports, that included the New Zealand ports of Auckland and Lyttelton. Fifteen ports were benchmarked across a range of cargo tests.\(^{104}\)

The following benchmarks relevant to New Zealand were established:

- Combined infrastructure and marine services charges per TEU for container ships were below average in Auckland and Lyttelton (page xix);
- Baggage handling in Auckland costs just one fifth that of Sydney (page xxiv);
- New Zealand charges were 20-25% below Australia in bulk stevedoring activities (page xxvi);
- Container pilotage charges at Lyttelton and Auckland were the lowest and second lowest respectively in the survey (page 54);
- Towage charges at Lyttelton and Auckland were fourth and second lowest respectively in survey in the survey of 15 world ports (page 61);
- Port authority ship based charges for cruise ships to Auckland were the third lowest in the survey of 11 world ports (page 89). For container ships Auckland and Lyttelton had the two lowest Port authority ship based charges in the survey of 12 world ports (page 90);
- For cargo-based and ship-based charges combined, Auckland and Lyttelton had charges that were mid-table (page 91); and
- The paper summarises findings by noting combined charges for container ships were lowest at Tilbury, Philadelphia, Singapore, Port Klang, and Lyttelton (page 94), while Auckland charges overall for container ships are comparable to Sydney and Melbourne (page 95).

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\(^{104}\) Not all ports were represented in some comparisons. New Zealand ports were excluded from a number of tests.
Industry submissions and our consultation with market participants largely confirmed these findings. For example, the country’s major dairy exporter (Fonterra) produced sample per container port charges comparing New Zealand with other world ports. Fonterra’s research showed New Zealand port charges as being the lowest in the survey. In some instances foreign ports’ charges were more than double those of New Zealand ports.\(^{105}\)

The New Zealand Shippers Federation noted that New Zealand ports are competitive, efficient, while overseas costs are “horrendous”, particularly in Japan, the US, and Australia. New Zealand Stevedoring Employers Association noted ports charges in Australia are substantially higher than in New Zealand.\(^{106}\) Carter Holt Harvey rates the quality of service at New Zealand ports as “comparable to, or better than, the services receives [sic] in other international ports used”.\(^{107}\)

**Summary**

The benchmarking provided by the Australian BIE suggests that New Zealand ports are very competitive by international standards for the bundles of services surveyed. In many cases New Zealand ports were amongst the cheapest ports surveyed. Furthermore, submissions and consultation generally concur that service standards in New Zealand ports compare favourably with those overseas.

To the extent that Auckland and Lyttelton serve as an indicator of the competitiveness of other ports in New Zealand, we consider this study, as well as the comments received from port users, to confirm the general efficiency of New Zealand ports on a world scale.

### 5.4. CONCLUSION

This chapter has looked at the competitive influences bearing on New Zealand ports. We have concluded that these are considerable and that at the macro level the commercial environment is competitive and the market power of ports is generally limited. The key drivers are inter-port competition, intra-port competition, inter-modal substitution, potential entry to the industry, and the countervailing power of port users.

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\(^{105}\) This information was provided by Fonterra Co-operative Group Ltd in an interview on 21 February 2002.

\(^{106}\) This information was provided by New Zealand Stevedoring Employers Association in an interview on 20 February 2002.

\(^{107}\) Carter Holt Harvey Lodestar Submission, page 12.
We have also considered the structure and performance of New Zealand ports. With regard to structure, we conclude that a number of efficiency arguments exist for vertical integration, and that concerns about this aspect of the industry are generally misplaced. We have formed the view that there are limited opportunities for vertically integrated port companies to successfully cross-subsidise between port services, based on the finding that barriers to entry are generally low and seem to be decreasing for most port activities. With regard to performance, it appears that New Zealand ports are doing well in terms of pricing and service by international standards.

While the above picture is an optimistic one, our investigation suggested that there are some problem areas in terms of the competitiveness of New Zealand port operations in New Zealand. Specifically, the provision of port services to specific customer groups has been a source of concern. These issues are dealt with in the next chapter, where we discuss those markets where ports do enjoy some degree of market power and appear to have exercised it from time to time against some classes of customers.
6. MARKET POWER CONCERNS

6.1. INTRODUCTION

The previous chapter analysed the level of competition and the performance of New Zealand’s ports industry. It was concluded that, in most cases, ports perform well and face a wide range of competitive pressures which drive market outcomes towards those normally associated with competitive markets. We did note, however, an absence of strong competitive pressures for certain customer segments in some of the markets that ports service, especially infrastructure provision. In these areas, competitive pressures on ports are weaker and can result in port companies possessing a degree of market power that if exercised may impact on social welfare.

Some port customers have claimed that port companies charge them higher rates in comparison to other classes of port users.108 In effect, they feel that ports are price discriminating — a situation where a firm will not necessarily supply its good or service to each customer at the same price. However, in order for a supplier of a good or service to price discriminate, certain conditions must be satisfied. First, the supplier must be able to quarantine the different prices (e.g. by preventing resale of the good or service to members of other price groups), and secondly, the supplier must be able to easily distinguish the relative price elasticity of demand for different consumer types. Under such circumstances, it will be optimal behaviour for a profit maximising firm to charge relatively higher prices to customers with a relatively inelastic demand curve and lower prices to customers with a relatively elastic demand curve.

In the New Zealand ports industry, each port publishes a standard tariff schedule detailing the price of each port service or bundle of port services. In practice, port customers rarely pay these published prices, instead negotiating discounts on the published price on an individual basis with the port company. Since port services cannot be resold and assuming that ports have some idea of the relative elasticity of demand of different classes of port customers, ports may be in a position to price discriminate amongst customers. The scope for such pricing behaviour is enhanced where customers are unable to observe the price paid by other customers. It is for this reason that many port users have argued for increased transparency in the pricing of port services.109


109 Some of these include: Tranz Rail Ltd Submission, page 19; P&O Nedlloyd Submission, page 8; Pacifica Shipping (1985) Ltd Submission, page 24.
Market power was defined in chapter 2 as the ability of a firm to profitably charge a price above the competitive level. In a competitive market, a firm is constrained from pricing above the competitive level as customers substitute to other products or services, and as alternative suppliers enter the market to produce the good. Where a firm has market power, its customers lack an economic substitute for the relevant product or service (i.e. inelastic demand curve). In a sense, these customers can be thought of as captured, at least in the short to medium term, after a small but not insignificant price increase is imposed.

In the ports industry, customer capture has at least three underlying causes:

- **Geographic capture** – the land transport costs of reaching the next best port make substitution between ports uneconomic;

- **Point-to-point capture** – for a given service there is no alternative to dealing with a particular port; and

- **Asset capture** – port customers have made specific and sunk investments at a particular port, making the switch to an alternative port prohibitively expensive once the investment has been made.

The purpose of this section is to discuss the particular classes of port customers that are most likely to be the subject of capture, and then to outline the ways in which market power can be manifested by ports in dealing with these customers. During our consultation process, several port customers claimed to be subject to some degree of capture by specific ports and gave examples of how the exercise of market power by ports had been manifested. These examples range from concerns or frustrations to on-going disputes with port companies to lengthy litigation and mediation. We have documented a number of these examples as illustrations (some of which are presented as illustrations in text boxes).

### 6.1.1. Geographic Capture

Choice of port is driven by total supply chain costs rather than port charges in isolation. Accordingly, for some port customers the cost of transporting goods to or from ports other than the closest available port is prohibitive. Such port customers can be described as “geographically captured”.
In practice there are degrees of geographic capture, and, due to limits on the number of ports (imposed in large part by the capital-intensive nature of port infrastructure provision) most shippers will be subject to some degree of geographic capture. This will range from shippers for whom transporting goods to or from the next closest port is simply not economic due to the complete erosion of profit margins by land transport costs, to those for which transporting goods to or from an alternative port is less attractive financially, but still economically viable.\textsuperscript{110}

Low value, high volume, bulk cargoes fall into the former category and are more susceptible to capture than other types of cargo. For example, trade in unprocessed logs is dependent on the movement of high volumes, with the goods having a relatively low margin per tonne. The slim margins on unprocessed logs will be quickly eroded by the additional costs of transporting logs to an alternative port.\textsuperscript{111} Other export products that would fall into this category include wood chips, coal, fruit and cement.

According to SouthPort, it is likely that the costs of the inputs and outputs of the Tiwai Point aluminium smelter, located near Bluff, reaching the closest alternative port, Port Chalmers, are prohibitive.\textsuperscript{112} This is because of both geographic capture and the existence of specialised assets in SouthPort which would need to be reconstructed elsewhere.

\textsuperscript{110} The importance of land transport costs in determining the choice of port is demonstrated by statistics submitted by Tranz Rail Ltd that of eight main ports in New Zealand serviced by rail, six of those ports draw between 45 –75\% of their rail-borne trade from within 200 kilometres from the port. For two of those ports, Napier and Westgate, over 50\% of their total trade comes from within 100 kilometres of the port. (Tranz Rail Ltd Submission, page 5)

\textsuperscript{111} The restricted geographic possibilities for exporting logs from the Central North Island, other than through Port of Tauranga, have recently been documented by the Commerce Commission in clearing the acquisition of Owens Services by Port of Tauranga (Commerce Commission, Decision 453: Port of Tauranga Limited and Owens Services BOP Limited (8 February 2002)). They estimate inland freight costs for logs at around $12 per 100 kilometres per cubic meter (i.e. 12c per kilometre). This becomes a significant cost component for inland journeys of 100 kilometres or more, given an export price for logs at $113 per cubic meter.

\textsuperscript{112} This was submitted in a telephone interview with South Port New Zealand Ltd, 28 February 2002.
Capture may be more pronounced where the port in question is more geographically isolated by poor transport routes or difficult topography, or if the customer is reliant only on that one port for moving most of its volume, rather than a number of ports around the country.\textsuperscript{113} Geographic capture for larger forestry exporters may be mitigated, at least to some extent, by delaying harvest of trees and instead felling forests near alternative ports, or by processing logs locally, thereby raising unit value, economic margin, and consequently the commercial viability of transport to alternative ports.\textsuperscript{114}

Geographic capture is most frequently faced by exporters of bulk commodities, however, domestic manufacturers who rely on imports of bulk raw materials are equally susceptible to capture.\textsuperscript{115} Containers, which make up a proportionately higher share of imported goods, attract lower transportation costs, and therefore less risk of geographic capture. As noted earlier, most imports enter through the container terminals at Ports of Auckland or Port of Tauranga, destined either for the Auckland area or for trans-shipment by road, rail or coastal freighter from there to the rest of the country.

6.1.2. Point-To-Point Capture

For some shipping services, receiving and delivering cargo close to the point of destination is of critical importance to the service’s value. A typical example is the service offered by inter-island passenger ferries. Locational convenience for passengers, minimisation of the length of sea journey, and the availability of specific infrastructure services at the terminus of major land transport routes dictate the use of a particular port over another.\textsuperscript{116}

\begin{itemize}
\item \textsuperscript{113} Examples of smaller log and wood products exporters that are more beholden to a single port are Rayonier NZ Ltd for Port of Gisborne and Pan Pac Forest Products Ltd for Port of Napier. This view is based on discussions with Rayonier and Pan Pac representatives at our meeting with the New Zealand Shippers Council.
\item \textsuperscript{114} Carter Holt Harvey and Fletcher Challenge Forests, as larger players with multiple plantations around the country, have the ability to apply these strategies more effectively than most other log and wood exporters. There are limits as to how far delays in harvesting can go, with the optimum age for felling timber being around 24-27 years. This information was supplied by Carter Holt Harvey and Fletcher Challenge representatives at our meeting with the New Zealand Shippers Council.
\item \textsuperscript{115} Ravensdown Fertiliser Co-operative Ltd submitted that it is a captured customer of three separate ports in relation to imports of bulk raw materials used for fertilizer production. Ravensdown requires large quantities of imported raw materials for which it claims it is uneconomic to use any port other than the closest port to each of its three production plants. (Ravensdown Fertilizer Co-operative Ltd Submission, page 3)
\item \textsuperscript{116} Concern was expressed particularly in relation to Cook Strait trades. For example, a Cook strait roll-on roll-off ferry service between Nelson and New Plymouth would not be a viable as a substitute for the ferry service between Marlborough and Wellington (Business NZ Submission, page 3).
\end{itemize}
For coastal shipping services, the competitiveness of their service lies in their ability to deliver cargo to points close to the ultimate destination of the goods at a price that is competitive with alternative modes of internal transport. Often the costs of double handling cargo will prohibit the transfer of goods between modes mid-journey. For example, in the shipment of goods between Auckland and Christchurch there is much less value to the service if the goods must be sent to Whangarei for shipment and are unloaded in Timaru. Coastal shipping lines are locked into dealing with specific ports for as long as one port company services a geographic area and the shipping service promises delivery to a specific location near those ports.117

Coastal shipping services and inter-island ferries have no alternative but to carry their cargo through the ports closest to origin and destination points.118 By definition, they will be subject to a certain degree of capture. We have identified a number of relationships where the risk of point-to-point capture may exist. They can be summarised as follows:

- Tranz Rail and Centreport: Tranz Rail operates a vehicle and passenger service between the North and South Islands. There is no alternative port in existence near Wellington capable of providing the services (e.g. RO/RO facilities) to accommodate Tranz Rail;119

- Tranz Rail and (possibly) Port of Marlborough.120 There are no alternative ports in existence in the northern South Island capable of providing required services; and

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117 In their submission, coastal shipping firm Silver Fern Shipping Ltd states that “for any given market, there is only one port to economically service that market” (section 1, page 6).

118 This point is made in submission by the Port Company Reform Working Group (section 2, page 14).

119 There exists the potential for Tranz Rail to construct an alternative terminal at Centreport, though property rights are disputed. If this terminal is economically and technically feasible, and entry is free (subject to normal resource consent costs) then Tranz Rail’s option to enter is a competitive constraint on Centreport. Tranz Rail submits that even if there was no dispute as to ownership of the land, Centreport could easily oppose the construction of a new terminal via the resource consent or seabed licensing processes, so that the threat of entry is more apparent than real. (Tranz Rail Ltd Submission, page 4).

120 Tranz Rail has obtained resource consent and completed the design for construction of a new port at Clifford Bay, 70 kilometres south of Port Marlborough. The new facility would provide a number of benefits to Tranz Rail including a shorter sea journey, a shorter land distance to Christchurch, and an avoidance of current regulatory constraints in the Marlborough Sounds. Tranz Rail submitted that the substantial investment made to date in obtaining consents and designing the port has made the threat more credible but has had limited impact in creating a competitive constraint on Port Marlborough, (Tranz Rail Ltd Submission, pages 4 & 13).
Coastal shipping lines (both freight and tanker) offer point-to-point shipping of bulk, break bulk, and container cargo. The major value provided by their operations lies in delivering near to final destinations. Coastal shipping lines including Pacifica, Silver Fern Shipping, Reef Shipping, Milburn Cement and others, have expressed concern that they are captured by ports they visit on scheduled services.¹²¹

We explore the market power issues relating to these relationships in more detail below.

The position of coastal shippers and passenger ferries can be contrasted with that of international shippers who generally have a degree of choice with respect to destination ports.¹²² A proportion of the cargo of international shippers will generally need to be freighted outside the destination city in any case, flattening the benefits of docking at one port over another. The ability for international shipping lines to switch between ports is a major source of their countervailing power, as discussed in chapter 5.

6.1.3. Asset Capture

A well-identified economic problem arises when assets are specific to a commercial relationship between trading partners. Assets are specific when their value inside a relationship falls appreciably once they are outside of it, in some cases to zero. Asset specificity gives rise to the problem known as *hold-up*. Hold-up occurs when one party to the relationship imposes changed pricing or other terms and conditions for use of the specific assets on the other party, once the other party has actually invested in the assets. This leaves the held up party with little choice but to either meet the changed terms or abandon its asset specific investment.¹²³

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¹²¹ Pacifica submitted that some port companies view the trans-shipment activity of coastal shippers as a threat to their business, which drives the imposition of excessive charges. These port companies consider that trans-shipment is resulting in their ports being bypassed in favour of larger hubbing ports. Pacifica claims that in some cases ports would “prefer to discourage coastal shipping so as not to jeopardise existing or prospective international shipping services.” (Pacifica Shipping (1985) Ltd, page 21) In the case of Tauranga, Pacifica claimed that pricing was reasonable due to the coastal shipping service providing a feeder for international shipping lines.

¹²² In addition to having less flexibility in the choice of port destinations, coastal shippers and ferry services are also necessarily more sensitive to changes in port charges and fees as they represent a larger proportion of their total costs compared with international shippers.

¹²³ Holmstrom and Roberts (1998) (see note 1) note that when an exchange relationship moves from an *ex ante* competitive situation with large numbers of potential contractual partners, to an *ex post* situation of a limited range of partners, opportunities may be created for one party to the contract to take advantage of the other’s lack of alternatives.
In the New Zealand ports industry, the nature of some types of cargo means they require the establishment of specific infrastructure assets at or near ports. Such infrastructure may be required in order to transport goods from the point of production to the port, or for storage and loading at the port.\textsuperscript{124} Where customers of ports build or finance those assets themselves, this exposes them to the risk of hold-up by the port.\textsuperscript{125}

Alternatively, if the port company provides or finances the specific asset, they may in turn be held-up by the customer.\textsuperscript{126}

Examples of commercial relationships where specific asset capture may exist, include the following:

- Methanex has constructed assets specific to delivering liquid fuels to the Westgate terminal. Methanex requires specific fixed infrastructure in order to pipe natural gas from the Taranaki gas fields to the Motonui processing plant for conversion to methanol. The methanol is then pumped to Westgate’s Newton King Tanker Terminal for export. The assets used to transport the methanol to the terminal are owned by Methanex and are specific, sunk, and of little value elsewhere. Westgate may have the \textit{ex post} opportunity to hold up Methanex, knowing Methanex has invested in the infrastructure and has little real alternative besides exit;

- Silver Fern Shipping Limited mostly owns and operates its own receiving and storage facilities at ports. To the extent that these assets are specific and sunk, Silver Fern is vulnerable to hold up for services ports provide, including infrastructure provision and land immediately behind the wharf where these assets are generally located;

\begin{footnotesize}
\begin{enumerate}
\item Carter Holt Harvey Lodestar submitted that 95\%-100\% of bulk products are captured to a particular port due to the necessity for specialised infrastructure at the port. Although minor levels of substitution is possible in some cases. (Carter Holt Harvey Lodestar Submission, page 6)
\item Asset capture may occur in addition to geographic or point-to-point capture (e.g. where low value bulk products need to be shipped through the closest port, and where the customer also has to invest in specific assets at that port).
\item An example of a potential hold-up facing the port companies is where they undertake infrastructure upgrades (e.g. dredging, upgrading wharfs and buying cranes) to attract specific services by international shipping companies and those services either do not come to the port in question, or, if they do, only under terms and conditions which take advantage of the hold up situation. Some in the industry have expressed concern that the investments being undertaken by ports to accommodate the new 4,100 TEU container ships being introduced by P\&O Nedlloyd could leave some ports exposed in this way.
\end{enumerate}
\end{footnotesize}
• Tranz Rail operates the inter island ferries, and owns the terminal departure building at Centreport. Centreport owns the berths Tranz Rail uses. Apart from the risk of point-to-point capture, Tranz Rail may also face hold up risks on the specific assets it has constructed at Centreport. Centreport, realising that these assets are sunk and Tranz Rail’s only alternative is to exit, may have an opportunity to hold Tranz Rail up. The likelihood of this event is reduced by the long-term contract in place, though an opportunity for hold up may occur during re-negotiation of the existing contract.\(^{127}\) Tranz Rail also owns substantial land at Port of Marlborough in the form of rail yards. While specific to the port, these rail yards occupy fungible land, limiting hold up potential;\(^{128}\)

• Coal exports from West Coast mines are susceptible to capture with the Port of Lyttelton being the nearest deepwater port, and also the only port in close proximity having the necessary specialised coal handling facilities and resource consents. Solid Energy has made efforts to reduce the degree of capture, including investigating the technical feasibility and consents for a deep water port on the West Coast, and attempts to establish a coal terminal at Shakespeare Bay. Barging to other ports has been explored with limited volumes going to Westport and Greymouth. Barging to deep water ports at New Plymouth and Picton has been investigated, but neither measure has been successful in achieving significant substitution from Lyttelton;\(^{129}\) and

• It is possible that Tranz Rail is captured by Port of Lyttelton in delivering coal (using specific track and rolling stock assets) from the West Coast region of the South Island.

Hold-up occurs most commonly in capital-intensive industries and can be dealt with by a variety of mechanisms. One approach is to avoid the purchase of specific assets altogether, although this may lead to under-investment in required infrastructure and can be sub-optimal from a welfare perspective.

\(^{127}\) The existing contract expires in fifteen months. Re-negotiations have commenced.

\(^{128}\) The Port of Marlborough owns the passenger terminal used by Tranz Rail. Arguably this enhances the potential for Tranz Rail to hold up the port when threatening to construct an alternative terminal at Clifford Bay. Mitigating this is the substantial investment Tranz Rail made in the construction of the Marlborough terminal, though in our interview with Tranz Rail it was stated this investment did not give Tranz Rail ownership rights.

\(^{129}\) Tranz Rail Ltd Submission, page 5.
Other forms of protection against hold-up include the use of long-term contracts to provide certainty and limit re-negotiation, or through vertical integration of one of the parties buying out the other, eliminating the transaction altogether. Long-term contracts were used by New Zealand Aluminium Smelters to avoid the problem of hold-up, negotiating a renewable 35-year lease on the use of a specifically-built wharf owned by SouthPort. It appears that Centreport is using vertical integration to avoid hold-up problems, by planning to construct its own inter-island ferry terminals as a way of eliminating contracting and coordination problems with Tranz Rail, the current owner of ferry terminals at Centreport.

For a variety of reasons, it appears these types of solutions may not have been adopted in dealings between New Zealand ports and their customers in the past, and contractual and legal disputes have arisen. We discuss this further below, focusing on the dispute between Methanex and Westgate.

6.2. **The Exercise of Market Power**

During the course of our industry consultation, we observed a degree of distress and frustration amongst many of the captured customers of ports. They claimed that in the case of captured customers, port companies are virtual monopolies that exercise substantial market power that manifests itself chiefly in the following ways:

- Fees paid to ports appear to exceed a reasonable return on the assets used and captive customers have little choice but to pay them;
- Financial returns to port companies in excess of those earned in other industries;
- Unwillingness of ports to negotiate in good faith on prices and a general lack of responsiveness to customer requirements; and
- Cross-subsidisation of port services from captive to non-captive users related to a lack of transparency in the pricing structures adopted.

We consider each of these in turn below, providing examples of each type of problem as related to us during our inquiries.
It must first be noted, however, that not all customers who could be considered captured were of the view that ports exercised market power. The New Zealand Forest Owners’ Association, an industry body representing the interests of commercial forest growers, claimed in their submission that the overall service provided by ports to forestry exporters seems to be satisfactory despite the captured nature of the cargo.\textsuperscript{130} Similarly, Carter Holt Harvey, a major forestry exporter, submitted that “there is no evidence that there are low levels of competitive discipline on port companies and service providers” and stated that it has faced declining port charges in real terms over the last three years.\textsuperscript{131}

6.2.1. Excessive Fees

A common complaint from captured customers is that ports exercise market power by charging fees in excess of the competitive level or increase them without a clear cost basis.\textsuperscript{132}

In particular, charges for the use of port infrastructure (wharfage and berthing charges) were claimed to be excessive. This is a particular issue for coastal shippers, many of which do not require pilots, towing, stevedoring or support services, or rely on their own, and so are only negotiating with ports for core infrastructure services. Sudden increases in prices for infrastructure services can also leave captured exporters with few alternatives but to pay.

An example of how price increases can impact on geographically captured export customers is provided in Box 1.

\textsuperscript{130} New Zealand Forest Owners’ Association Submission, page 3.

\textsuperscript{131} Carter Holt Harvey Lodestar Submission, page 11.

\textsuperscript{132} See Tranz Rail Submission Ltd, page 18. The Port Company Reform Working Group also notes that Pacifica, Pan Pac Forest Products, Ravensdown Fertiliser Co-operative, Silver Fern Shipping, Straits Shipping, and Tranz Rail all consider wharfage charges are above competitive levels (Port Company Reform Working Group Submission, section 7, pages 3–4). In addition, Milburn Cement and petroleum producers operating through Westgate complain of the lack of reduction in unit charges following large volume increases.
Box 1: Port of Gisborne and Rayonier

Rayonier is the major export customer at Gisborne and has submitted that its business in exporting low-value forestry products from Gisborne is subject to a degree of capture. As noted above, the transport costs associated with low-value unprocessed logs and woodchips is prohibitive beyond certain distances, especially given the geographic isolation and poor infrastructure links to other ports from the hinterland around Gisborne.

In 1999/2000 Port of Gisborne increased its prices for infrastructure services by 20%, with little if any change in sales volumes from key customers. Normally a 5-10% price increase is taken as a benchmark for determining whether a firm has market power.

To say, however, that market power was abused or exercised in an anti-competitive manner in this case is more problematic. A definitive answer cannot be provided without a great deal more information than we were able to obtain from our study.

Port of Gisborne had recently upgraded its infrastructure at a cost of $16m, and had hoped to pay for this in large part through the sale of farm holdings. When that sale was delayed due to unrelated legal action, the Port felt it needed to recoup the costs of the infrastructure expenditure through higher port charges to users. The need for the Port to defray fixed costs associated with the new infrastructure and valuation issues (discussed below) complicate a clear judgement about the exercise of market power in this case, despite it being clear that customers have few alternatives in the face of a significant price increases by the Port.

Our consultation with ports has included discussion over the method of setting fees. An approach commonly undertaken by ports in setting fees is to assess, amongst other things, the value of substitutes for the customer and pricing up to that value. While this is normal behaviour in a competitive market, such an approach will not eliminate economic rents in situations where customers have no supply alternatives (either existing, or potentially through entry). In these situations there is the potential for fees to be set in excess of the welfare-maximising level.

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133 This information was supplied from discussions with Rayonier NZ Ltd at our meeting with the New Zealand Shippers Council.

134 This was confirmed in our discussions with Port Gisborne Limited.
Against this, account must be taken of the need for ports to make provision for future infrastructure upgrades, especially as existing infrastructure approaches capacity. That is, ports essentially face a “step function” in their total costs at the point of maximum capacity of the existing infrastructure.\(^{135}\) It should also be noted that other factors apart from pricing appear to be driving port profits, in particular cost savings and increased volumes at some ports.

Valuation issues are often at the core of the concerns from captive customers about fees and reported profit levels for New Zealand ports. Claims of excessive returns by ports are generally based on the comparison of annual revenues to a valuation of the assets used by the captured customer. This method of analysing the competitiveness of port pricing is extremely sensitive to the valuation methodology adopted to estimate the market value of port assets. Different methodologies, optimisation rules, and ways of accounting for the opportunity cost of utilised land leads to substantial variations in estimated asset values.\(^{136}\)

Valuation and pricing issues have come to the fore in some recent disputes and litigation between ports and their users. In *Pacifica v Centreport* [2000] experts for both sides presented asset valuations based on historic and ODV bases.\(^{137}\) The court acknowledged that both approaches to valuation were mainstream. Centreport’s pricing, based on ODV, was therefore deemed to be not unreasonable. This matter is discussed further in Box 2.

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\(^{135}\) Profitability measured in terms of rates of return on the value of existing infrastructure may appear to rise markedly prior to new investments being undertaken but this may not be evidence of excessive pricing if account is taken of new infrastructure investments required.

\(^{136}\) Two submissions in particular relied on asset valuation and publicly available financial accounts to calculate return on equity information for commercial ports. The Port Company Reform Working Group presented a submission calculating internal rate of return for six commercial ports. Estimated returns since corporatisation in 1988-1990 typically lie between 11% and 20%. The submission by Roger N Taylor, on behalf of port companies, calculated earnings before interest and net profit after tax on net assets for thirteen commercial ports, calculating nominal returns averaging between 9% and 13% between 1990-2001. The main cause of the divergence of returns estimates is in the view of ports’ asset values. The Port Company Reform Working Group relies on historic book values, while Roger Taylor calculates based on book values net of revaluations.

Box 2: Centreport and Pacifica

From 1 April 1999 Pacifica had an 18 month agreement for access to a Centreport berth for a fixed fee, reviewable if Pacifica’s two-ship operation reduced to one. The fee was agreed to be adjusted as “appropriate”. On 1 January 2000 Pacifica reduced its two-ship operation to one, and a dispute developed over the appropriate method of calculating the new fee.

Protracted negotiations began. With no agreement on the new fee and the expiry of the lease approaching, Centreport declared no contractual position would exist after expiry and Pacifica would have to vacate the wharf. The day before expiry Pacifica obtained an interim injunction restraining Centreport from dealing with other parties for the use of the facilities, and requiring Centreport to allow continued use of facilities by Pacifica until further order of the Court.

Pacifica sought a permanent injunction restraining Centreport from dealing with other parties for the use of facilities, requiring Centreport to participate in a reasonable fee setting mechanism, and an inquiry into a reasonable set of fees.

The Court refused the permanent injunction and declared the order for interim injunction would be discharged one month from the date of judgement. The Court noted that the use of the word “appropriate” was not defined and concluded no agreement had been reached as to the meaning of that word in the context of fee setting. The Court referred back to the Deed of Lease signed between the parties in 1993, which required fees to be set on a volume basis, rather than fixed fee.

Pacifica argued the common law doctrine of “prime necessity” implied not only the refusal of access, but refusal of the owner of an essential asset to participate in a mechanism to set reasonable fees. The Court ruled this out on two counts: first, it ruled that a mechanism to set a reasonable fee was not a part of prime necessity; and second, it ruled Part IV of the Commerce Act inferentially excludes the doctrine.\(^{138}\)

Finally, the Court examined the method of pricing by the port \textit{obiter dictum}. It found that Centreport had not abused its monopoly position by setting unreasonable prices, and that Centreport’s methodology is mainstream and unexceptional. The Court noted Pacifica had fallen “well short” of establishing unreasonable of Centreport’s fees.\(^{139}\)

\(^{138}\) Prime necessity is a common law doctrine which embodies a principle that monopoly suppliers of essential services must charge no more than a reasonable price.

Tranz Rail expressed concern over the reasonableness of port charges at Port Marlborough and Centreport when compared to independent asset valuations. According to Tranz Rail, valuations carried out using the Optimised Depreciation Value (ODV) method suggest fees paid by Tranz Rail each year equal approximately half of the calculated value of assets used at each port.  

It is worth noting that no New Zealand port has been found to be in breach of the Commerce Act in setting their fees too high. However, an interesting comment is made on the issue of port fees in New Zealand Rail v Port of Marlborough [1993]. Justice Gault noted that Port Marlborough had, in effect, argued that if New Zealand Rail (now Tranz Rail) is earning monopoly rents on its inter-island business then the port is reasonably entitled to a share of those rents. The Court disagreed with this view, saying such an approach to pricing is unreasonable. It is claimed that ports have a degree of market power to set fees and charges to captive customers in certain markets, especially for the provision of infrastructure services. We have not, however, been able to identify any specific instances of anticompetitive pricing by ports in this study, and note that to do so would require more information than we have been able to obtain from this qualitative survey of the issues. In particular, a detailed investigation of valuation, investment and cost allocation issues would be needed in each case. The issue is also compounded by the links between the issue of port fees and other market power concerns discussed below, especially refusal to negotiate and lack of transparency in pricing.

6.2.2. Excessive Financial Returns to Port Companies

A number of port users claimed that port companies have been consistently earning abnormal financial returns in excess of those available in other industries. These port customers claim that these abnormal returns have been gained at the expense of captured port customers and are evidence of the significant market power of some New Zealand port companies.

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140 In the case of Centreport, Tranz Rail submitted that its fee payable to the port company would represent a return of around 60% per annum where the facilities are valued on an ODV basis. For the Port of Marlborough, where assets were valued on a depreciated replacement cost basis, the return was calculated to be 50% per annum. (Tranz Rail Submission Ltd, page 15).

141 See the following submissions: Silver Fern Shipping Ltd Submission, page 36; Tranz Rail Ltd Submission, page 15; Carter Holt Harvey Lodestar Submission, page 12; Ravensdown Fertiliser Co-operative Ltd Submission, page 10; Pacifica Transport Group Submission, page 6.
The submission of the Port Company Reform Working Group included a report from Simon Terry Associates Ltd (STA). The STA report assesses the accounts of six port companies using a measure of Internal Rate of Return (IRR) and data from public financial statements. STA find the six ports have earned rates of return of between 8.2% and 19.7%, compared to a target return of 8.0%, and estimate the exercise of market power earned port companies returns above the competitive level averaging $30 million per port per year. The report concludes the results “provide a substantial prima facie case that market power has been both held and exercised by port companies”, and that price control is warranted.

After careful consideration of the STA report we have reached the conclusion that it provides no plausible evidence that the port companies have market power or earn returns above the competitive level. Our reasons for reaching this conclusion are as follows:

1. The STA report provides no evidence relating to competitive processes in the relevant markets. Indeed it ignores the widely accepted approach of competition analysis of defining individual markets and assessing competitive processes in each one. There is no evidence on the pricing of individual port services over time or in relation to costs, and no recognition of the variations in the potential for the exercise of market power in different markets.

2. The STA report bases its conclusions entirely on a calculation of the internal rate of return of port companies. Our assessment is that these calculations are flawed or biased in a number of respects:

   - The 8% benchmark return is based on the weighted average cost of capital (WACC) for regulated utilities and an analysis of returns from the top 40 companies on the NZSE from 1991 – 2001. Since ports are not regulated utilities, and (as the evidence presented to us demonstrates) face substantial competition for at least some of their activities, the WACC for regulated utilities is too low to use as the benchmark.

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143 The six ports included in the sample were Lyttelton, Marlborough, Napier, Nelson, New Plymouth, and Wellington.


145 A similar comment can be made on the submission by Roger N Taylor.
• The 8% benchmark return is also based on an analysis of returns from the top 40 companies on the NZSE from 1991 – 2001. The return on the NZSE 40 is extremely sensitive to the period used, which is the reason why benchmark returns are usually estimated over much longer periods than the one chosen by STA.

• The assumptions used to convert the internal rate of return information on the NZSE 40 (which is used as a proxy for the WACC) into an unlevered cost of equity may understate the difference between the WACC and the cost of equity.

• The use of book value for the beginning of the period and market value at the end of the period does not provide a consistent basis for comparison, and only a comparison using book values at both the beginning and end of the period would provide a plausible basis for comparison.

3. The STA report contains assertions that undermine the credibility of the report. For example, it claims that “…port users face the risk the ports may change hands at market levels that are multiples of current book values. Acquirers would set charges in line with acquisition values…”. But even in the case of a pure monopoly the market determines the charges that will maximize monopoly profits. Thus the commonly accepted view in financial economics that market value is the present value of the expected future stream of revenue that will be generated by the company holds even for monopolists. It is therefore not correct to claim that the price at which port shares are traded will result in port charges being increased.

4. Similarly, STA view the difference between the market value and the book value of the port companies as windfall gains, and imply that it is through the exercise of market power that these gains have accrued to the owners of the port companies. The difference between market value and book value could reflect value added to the port operations under private ownership. However, even if the difference between market value and book value does measure the windfall gain accruing to the owners of shares in ports, these gains have no implications for efficiency: if the gains are truly “windfall” then we would not expect port owners to reduce future port charges as a result of having received them.

146 If the period 1991 – 1997 had been chosen, the return from the NZSE 40 would have been over 10 percent.
5. Finally, the STA report does not tie its analysis of the profitability of the ports with the price and quantity performance of the ports market over the same period of time. The welfare of a market is not indicated by the profitability of the firms per se, rather the qualities of services, volumes traded and the prices must be considered as it is these that represent the dynamic efficiency of markets. While, under our brief, we have not developed quantitative estimates of market performance, we note anecdotally the Ports of Auckland claim that revenue per tonne (i.e. handling charges for port customers) has fallen by 50% since 1988. While in itself far from definitive, this claim is indicative of the sort of market information that STA would have had to evaluate in order to report on the economic performance of the ports market.

6.2.3. Reluctance to Negotiate and Lack of Customer Responsiveness

A frequent complaint by captured customers is that it has been difficult to initiate re-negotiation of fees and other requirements with ports.\textsuperscript{147}

This has been a particular concern for customers that feel they are a key customer of a particular port or whose volumes have increased dramatically over time. Normally volume increases are associated with considerable discounts to customers, but captive customers have felt that they have been dealt with less favourably than others in this regard. In some cases, we understand that ports have simply refused to negotiate with captured customers.

A good example of this problem is provided by the case of \textit{Methanex v Westgate} [1998], where lengthy and costly litigation ensued from an impasse between a port and one of its key customers. The customer can be viewed as captive in large part due to specific assets it owned at the port, and in that sense the impasse could be seen as reflecting a situation of hold up. See Box 3.

\textsuperscript{147} For example, Pacifica submitted that port companies adopt a ‘take it or leave it’ attitude in negotiations with captured customers (Pacifica Shipping (1985) Ltd Submission, page 5). Tranz Rail claimed in its submission that port companies have the ultimate weapon of denying access, which they use to lever negotiations. (Tranz Rail Ltd Submission, page 13). Complaints over re-negotiation of fees are often related to the practice of bundling fees. When customer requirements for port services change then the contract between the port and customer will need to be re-negotiated. For instance, a port customer may begin operating and using their own stevedoring services, and will need to have the stevedoring component of the existing contract separately identified and removed. Many port customers find ports are unwilling to unbundle charges in this fashion, or unbundle in a way that is unacceptable to the customer. In the submission received from Silver Fern Shipping Limited it is pointed out that ports justify bundling on the grounds of administrative simplicity. They state that they are “more than happy to pay for the administrative complexity of unbundling services at ports”, and that while some ports do unbundle charges, others do not (Silver Fern Shipping Ltd Submission, section 1, page 4).
Box 3: Methanex and Westgate

By 1997 a long-standing contract with Westgate had become unsatisfactory for Methanex. Volumes shipped by Methanex through the port had more than doubled during the 1990s and revenues paid to Westgate had increased in proportion, while Westgate’s costs in providing a berth had remained approximately static. Wharfage rates had been set by Westgate (then Port Taranaki) in 1983 at $2.65 per cubic metre of methanol and Motonui Gasoline shipped.148

Following stalled negotiations, notification by Westgate that existing charges were fair and reasonable, and finally a refusal by Westgate to negotiate further, Methanex unilaterally announced a new basis for fees paid to Westgate. Methanex proposed that it would pay $2.65 per cubic metre up to 1.416 million cubic metres per calendar year, then a variable rate beyond that volume of $0.265 per cubic metre. The disputed shortfall in monies was paid into a solicitor’s account.

Westgate filed interim injunction proceedings against Methanex to restrain it from using port facilities until wharfage arrears had been paid. The application for injunction was dismissed by Justice Potter who, in his decision noted:

“There seems here, to be more than a mere hint in the history of the negotiations, of a consumer trying to reach a negotiated settlement on a realistic commercial basis with a monopoly supplier who, from the advantage of its monopolistic position, has been at best reluctant in its attitude to negotiations, and peremptory in its approach to litigation.”149

The case was ordered to proceed to trial, and a discovery process preceding the trial commenced. Methanex noted the difficulties with the discovery process, with 126 key documents withheld by Westgate. Eventually all but one of these documents were held by a court to be discoverable.

With key documents discovered, Methanex noted a shift in the balance of negotiating power. A last-ditch mediation before trial was agreed to by Westgate and, after four days, a new agreement was signed. Two points are worth noting: first, it is not clear that Methanex would have found remedy with the Courts had the case proceeded to trial.150 Second, from Methanex’s perspective there was discomfort with the terms of the agreement but, beset by the fatigue of dealing with this problem for so long, it claims to have agreed on terms it might have otherwise disputed.

148 This information is contained in Westgate Transport Ltd v Methanex New Zealand Ltd, unreported judgement of Nicholson J, High Court Auckland, CP 93/98, 29 January 1999.

149 Westgate Transport Ltd v Methanex New Zealand Ltd, unreported judgement of Potter J, High Court Auckland, CP 93/98, 8 June 1998.

The above example shows port companies inherited fees and charges from pre-corporatisation days, when ports were not operating in a commercial environment. Some ports appear to have been reluctant to revisit these prices in a commercial environment in the face of requests from customers. This reluctance itself suggests that market power exists in regard to dealings with certain port customers, and is being exercised by some ports from time to time.

At times, when port charges have changed, this has been not so much by negotiation but by unilateral notification. The example of Port Gisborne increasing some port charges by 20% in 1999/2000 has already been discussed above.

Overall, the situation for some customers seeking to re-negotiate fees appears to have been either “shut up” (accept existing prices or proposed increases) or “put up” (take legal action against the port), which as the above example shows can be time consuming, expensive and not necessarily satisfactory. In competitive markets it is usual for suppliers to respond to customer needs and to adjust prices to changing cost and demand conditions, well short of threatened or actual litigation by customers.

Some concerns were raised about the lack of innovation and quality by ports, but overall this appears to have been less of an issue for customers than pecuniary concerns.

6.2.4. Cross-Subsidisation and Lack of Transparency

A number of customers, especially coastal shippers and bulk exporters, have complained of a lack of transparency in port pricing and a concern that higher charges for certain services supplied to them are underwriting competition by ports for more footloose customers or cargoes.

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151 Tranz Rail expressed concerns in its submission (page 9) over coal unloading facilities at the Port of Lyttelton. Tranz Rail claims that the equipment is obsolete and adds to the capital and operating costs of its rail delivery system. The port has refused to invest in enhanced facilities, and has rejected Tranz Rail’s proposed development of new facilities. In Tranz Rail’s view, this development has been blocked by Lyttelton Port Company for the reason that a company in a position of market power can earn a profitable return without development. Tranz Rail also cited problems in the development of a new berth at Centreport to accommodate its new passenger catamaran, The Lynx, as the former method of pontoon access was no longer possible. Tranz Rail incurred considerable expense in demolishing the short arm of the old berth, when Centreport decided to withdraw consent and block the development. Tranz Rail claims that as a consequence it is forced to use an inadequate terminal for extra cost (Tranz Rail Ltd Submission, page 13). Ravensdown Fertiliser Co-operative expressed concerns that ports lack the investment to improve infrastructure standards in relation to captive trades (Ravensdown Fertiliser Co-operative Ltd Submission, page 2).

152 Coastal shippers (Business NZ Submission, page 4) submitted that ports cut prices for contestable ship calls, e.g. international container trade, and recoup their losses by charging non-contestable (captured) trade at higher rates. The evidence is however, not conclusive, one port company (Business NZ Submission, page 5) claimed that it provides discounts on wharfage to frequent users of the port of which coastal shippers are the main beneficiaries.
Ports do publish schedules for different services they provide to customers but invariably prices actually paid by customers varies depending on their particular volumes and bargaining strength. Customers with strong bargaining positions, such as international shipping lines or large exporters, rarely pay the scheduled fee. Further, as noted above, some customers dispute the costs and valuations underpinning certain charges.

Where a firm possess market power and is able to charge prices in excess of the competitive level, it may be able to use the abnormal returns generated in the less competitive market to cross-subsidise its other operations for which there is more intense rivalry. The multi-faceted nature of port operations and the high degree of vertical integration in the New Zealand ports industry means that this activity may occur in some circumstances. These circumstances are limited by the competition that the ports generally face.  

If a firm has the ability, we would fully expect it to price discriminate between customers, in the sense of charging higher prices to those with more inelastic demands, and lower prices to those with more options, and this practice is not economically inefficient. It is less clear why a firm would cross-subsidise, in the sense of pricing below cost to customers in a complementary but competitive sector of the ports business. The practice whereby market power will be leveraged in one market to subsidise another requires particular circumstances. In general, there is no incentive to do so because overall profit will not be enhanced (Posner (1976)). In some circumstances incentives do exist and leverage obtained by tying the use of complementary goods can be economically efficient (see De Graba (1996)), whereas in others it may not (see Choi and Stefanadis (2001)).

The argument that cross-subsidisation was in the interest of ports would likely require imperfect competition in both markets. To the extent that this occurs cross-subsidisation perhaps implemented by transfer pricing between activities of the port may engender higher profits. However, to the extent that our conclusions lead us to believe that in most circumstances distribution through ports is competitive the incentive for cross-subsidisation will generally not be present.

153 Complaints over bundling of port charges are made by, amongst others, the Port Company Reform Working Group in their submission (Section 2, page 5). Silver Fern Shipping considers themselves as captured, and their charges as such are used to develop the port to attract other contestable business for ports (NZIER 2002, page 4).

One motivation identified for cross-subsidisation by ports is a desire to expand their capabilities in those areas which they perceive to have the largest volume and profit growth in the future (e.g. the container trade) even if per unit profits are presently lower and the market is more contestable between ports. Such decisions could also reflect complementary linkages from the subsidised activity to other port activities (e.g. between the container trade and other business lines, such that if you can attract the major shipping lines – with adequate container facilities – then other aspects of port activity are also enhanced).

The leading case involving cross-subsidies from one port activity to others was Commerce Commission v Port Nelson (1995). We have already noted the views of the courts on market definition in this case, but provide more detail on the market power issues and transparency issues associated with this case in Box 4.

**Box 4: The Port Nelson Cases**

Port Nelson has twice been to the High Court and found to be in breach of the Commerce Act.

In the case of Commerce Commission v Port Nelson Ltd (1995), Port Nelson was found to have breached section 27 of the Commerce Act by under-pricing one service with the purpose of substantially lessening competition. Port Nelson viewed towage and pilotage so complementary as to be in the same market, which the Court disagreed with. The port refused to “untie” the provision of its tugs and pilots (in itself held to be a breach of section 36). The effect of this on the competing independent pilotage firm was that they had to provide their own tugs. Port Nelson’s tying limited the independent firm to piloting smaller vessels. Port Nelson then dropped its minimum charge for pilotage to $100, which directly targeted the market for pilotage of small vessels (since pilotage charges are generally based on tonnages of boats piloted), the only part of the market in which the independent pilots operated. The Court found this charge was both below cost and for the purpose of substantially lessening competition. Port Nelson was fined $500,000. The decision was upheld on appeal. Port Nelson essentially used its market power in one market, towage, to exert market power in the market for pilotage.

Five years earlier Union Shipping, a shipping line operating out of Port Nelson, had also come into conflict with the port company. In Union Shipping New Zealand Ltd v Port Nelson Ltd [1990], Port Nelson was found to be in breach.

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158 Union Shipping New Zealand Ltd v Port Nelson Ltd [1990] 2 NZLR 662.
of section 36 of the Commerce Act. Port Nelson, keen to maintain full use of its fleet of forklifts and drivers following corporatisation, had proposed a port user licenses that would require or incent customers to use port equipment instead of their own, except where the port could not provide the equipment. Union Shipping refused to agree to the proposals. The High Court held that the port was dominant in “all relevant markets”, and found that the port had used that dominance by requiring customers to hire plant from the port. “Use” of dominance was decided because, by bundling access to wharfs with use of port equipment, the port did not act as it would have in a competitive market. Port Nelson was thus found to have breached section 36 of the Commerce Act. The court found no breach of section 27, for a contract substantially lessening competition, as no contract had been entered into.

According to some ports interviewed and one submission received, Port Nelson’s experience in Court has served as a signal to other ports that the exclusionary behaviour through predatory pricing and forced bundling is illegal and punishable under the Commerce Act.159

During our consultations, we found widespread suspicion amongst some groups of port users that port companies are using revenues from captured customers to subsidise the development of infrastructure used in the provision of other, more competitive, port activities. Without transparency of pricing, port users may have little guide on the underlying price basis, raising suspicion of the existence of cross-subsidy. A number of captured customers have argued for increased transparency in port pricing, particularly between discrete port services.160

159 For example, South Port and Port of Napier noted the impact of the Port Nelson decisions on the awareness of ports’ obligations in dealing with customers. The submission by Roger N Taylor (page 4) notes “the result of the Port Nelson decision has been taken very seriously by all port companies”. The Commerce Commission, in Commerce Commission Decision 453: Port of Tauranga Limited and Owens Services BOP Limited (8 February 2002), page 17., states “[t]he concern is that non-contestable charges, such as those pertaining to wharfage, may end up cross-subsidising contestable charges. To the extent that this occurs, such practices would be considered under Part II of the Act. The credibility of this threat may be strengthened in this area, given the court precedents [Commerce Commission v Port Nelson] in relation to the bundling of port charges, and the fact that industry participants are well aware of these precedents and their implications.”

160 See footnote 141. In their submission Centreport Ltd (page 5) records their failed attempt to smooth negotiations by increasing the transparency of fee structures with Silver Fern Shipping. According to Centreport, transparency resulted in “a mountain of paper.” According to Centreport, endless requests for detailed additional information were sought, and ultimately no resolution between parties was reached. In this instance, increased transparency added, rather than reduced, costs.
Methanex identified the benefits of increased disclosure by ports in resolving disputes by reference to its dealings with Westgate. Methanex observed that once the discovery of documents had occurred, the balance of power between supplier and customer shifted enough to induce Westgate into agreeing to mediation – something Methanex had been asking for prior to extensive litigation. By disclosing details of the rationale for pricing, Methanex was in a position to address specific concerns. For example, Methanex discovered their fees included paying for security, a service Methanex was supplying themselves. In the view of Methanex, the discovery process limited the ability of Westgate to defend their position that their fee was “fair and reasonable”, and led to Westgate quickly agreeing to mediation.

Like excessive fees, cross-subsidisation activity can be difficult to detect in practice. We have not been able to identify specific instances of cross-subsidisation by ports, but note that price transparency does appear to be a genuine problem for some customers. The counterfactual provided when Methanex was able, through legal proceedings, to get a better understanding of the cost conditions applying to the services they required shows how this can improve the outcome from the customers perspective.

Generally, significant information asymmetries make markets work less effectively and lead to consumer detriment. Overcoming these asymmetries can enable customers to negotiate more effectively for specific services they require. Competitive markets are assumed to operate with perfect information, where this is not the case, market outcomes may depart from the competitive level. This applies not only to transfers between customers and port companies but also to the volume decisions, especially where significant distortions to prices facing customers are the result.

6.3. **Offsetting Factors and Efficiencies**

We have concluded that ports do enjoy a degree of market power in the provision of services to certain customers. This market power does appear to have been exercised from time to time. We have not attempted to measure the size of the welfare losses associated with this (deadweight losses) but note that the problem is confined to a fairly limited group of customers. For these customers, ports’ market power is a major issue. There are, however, a number of mitigating factors that need to be considered before reaching a view on the appropriate public policy response.

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161 This information was supplied at our meeting with Methanex.
The commercial priorities of ports will often mean that larger and more lucrative customers and cargoes receive preferable treatment in some form, whether it be reduced port charges, volume discounts or other rewards for loyalty. This is not necessarily evidence of anti-competitive activity on the part of the port company (e.g. cross-subsidisation between port activities) but may simply reflect the efficient flow of ports resources to higher value uses. When viewed in this way, the lack of responsiveness of ports to smaller, less lucrative customers may be a rational commercial decision rather than evidence of the exercise of market power.

There is evidence that geographic capture may be declining over time for some products. In respect of bulk export commodities, there has been a trend towards increased processing, for example, processing timber into higher absolute margin products instead of shipping unprocessed logs. Some port customers have been able to switch to more efficient means of shipping products (e.g. containerisation) resulting in increasing flexibility in choice of port. With respect to asset-specific capture, there is evidence that new investments in specific infrastructure at ports are being dealt with through efficient long-term contracts. The consequence of such trends is that the magnitude of the dead weight loss associated with any use of market power by ports is likely to decline over time.

Some customers that can be considered to be captive to a particular port, do not face the exercise of market power due to factors such as countervailing market power. Carter Holt Harvey submitted that it is captive to the Port of Tauranga for a significant proportion of its forestry exports, but found that the prices charged by the port are not unreasonable and are comparable to those charged by other ports to non-captive customers.

Finally, the transition from Harbour Boards to a commercial environment for ports in New Zealand has contributed to some of the problems noted in this chapter. It can be expected that some of these practices will decline over time as ports continue to operate in a commercial environment and their management teams come to reflect general business skills rather than port-specific personalities.

6.4. SUMMARY

While ports generally compete for business from customers with competitive substitutes, there are pockets of the industry where port customers have limited alternatives. In these situations, it is claimed that ports have market power. The exercise of any market power by ports ranges from concerns about: increased prices, to excessive financial returns, to limited willingness to negotiate, to incomplete information disclosure to customers.

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162 For example, the Port of Napier submission comments on increased processing of timber and its effect (page 4).

163 Carter Holt Harvey Lodestar Submission, page 12.
It is important for policymakers to place the issue of capture into some perspective. Captured customers are one subset of the total population of port customers. In some cases it is difficult to be conclusive with respect to the degree of capture, and hence the extent of market power possessed by the port, without a full investigation into the feasibility of alternatives for the port customer. Such an investigation would also need to take into account the incentives for port customers to engage in rent seeking behaviour, and isolate such cases from the genuine concerns and frustrations of captured customers.
7. ADEQUACY OF EXISTING REGULATORY AND GOVERNANCE ARRANGEMENTS

7.1. INTRODUCTION

As outlined in chapter 5, at a macro level competition in the ports industry has been healthy and appears to be increasing. This appears to be to the advantage of most port customers, especially major exporters and international shipping lines. The performance of New Zealand ports also appears to be very healthy by world standards. At this level of consideration there does not appear to be any case for changing the regulatory or policy parameters.

However, as discussed in chapter 6, at a more micro level we have identified problems between certain groups of customers and particular ports. In these situations ports could have varying degrees of market power, reflecting, in large part, a lack of alternatives facing their captured customers. These port users have raised concerns about increased prices, excessive returns, limited willingness to negotiate, and cross-subsidies and a lack of information transparency. It is at this level of consideration that the market power of ports raises questions about the value of regulatory or policy intervention and whether these can improve total welfare.

We proceed in the next section by considering the key legislation that presently relates to the commercial operations of ports – the Ports Companies Act and the Commerce Act. We then examine the application of general competition law to the ports industry. The chapter concludes with an examination of policy options for reform put forward by various industry stakeholders.

7.2. LEGAL DIMENSION

The economic behaviour of ports is controlled under two pieces of legislation, the Port Companies Act 1988, and the Commerce Act 1986.

The Port Companies Act 1988 contains the following key requirements:

- The principle objective of ports is to operate as a “successful business” (section 5);
- Harbour Boards, which previously owned and managed the ports, to establish Port Companies, separate commercial and non-commercial activity, and transfer commercial activities to the companies (section 23);
- A Statement of Corporate Intent is to be produced annually (sections 8 to 14). The requirement to produce these may be waived by the Minister for those companies with private shareholdings; and
51% of voting rights were initially required to be held by shareholders who were a Harbour Board (section 7). This restriction was removed in the Port Companies Amendment Act 1990. Harbour Boards and local authorities could still hold shares in ports but there was no longer a restriction on private ownership.

Notably, there is no elaboration on the meaning of the term “successful business”. Additionally, there are no explicit constraints on the economic behaviour of ports contained in the Act, leaving the statutory limits on the economic behaviour of ports to general competition law.

The primary piece of competition law in New Zealand is the Commerce Act 1986. The short title of the Commerce Act, amended in 2001, states that its purpose is “to promote competition in markets for the long term benefit of consumers within New Zealand”. Two key sections of the legislation are relevant to ports. Section 27(1) provides that:

\[
\text{No person shall enter into a contract or arrangement, or arrive at an understanding, containing a provision that has the purpose, or has or is likely to have the effect, of substantially lessening competition in a market.}
\]

As far as is relevant for present purposes, section 36(2) states that:

\[
\text{A person must not, for any of the purposes specified in subsection (3), take advantage of the person’s substantial degree of power (if any) … in a market …}
\]

Subsection (3) states that:

\[
\text{The purposes are as follows:}
\]

\[
(a) \quad \text{restricting the entry of a person into a market that is not a market exclusively for services:}
\]

\[
(b) \quad \text{preventing or deterring a person from engaging in competitive conduct in a market that is not a market exclusively for services:}
\]

\[
(c) \quad \text{eliminating a person from a market that is not a market exclusively for services.}
\]
Section 36 of the Commerce Act was amended in 2001. Furthermore, penalties for breach of certain provisions of the Act, including sections 27 and 36, have been increased. The former section 36 provision involved a dominance test where the relevant threshold was for a firm to be holding a ‘dominant’ position in a market. The recent amendments have strengthened the section 36 provisions by lowering the threshold of market share for application of the provision to a firm holding a ‘substantial’ degree of power in a market. The merger provisions were also amended from prohibiting a merger which results in ‘dominance’ to prohibiting a merger if it has the effect or likely effect of ‘substantially lessening competition’ in a market.

Price control is dealt with under Part IV of the Commerce Act. Section 53 requires price control to be ordered by the Governor General – not the Courts – on recommendation of the Minister, by Order in Council, and may follow a report from the Commerce Commission. It has been pointed out that controls on pricing therefore requires a political will, amongst other things. In the sixteen years since passage of the Commerce Act one report has been requested by the Minister, an investigation by the Commission into airport charges.

While it can be debated, it is unlikely that monopoly pricing per se would breach section 36. However, this will depend on the circumstances; section 36 is likely to be more applicable in cases where the monopolist is vertically integrated, and an entrant seeks access to the monopoly input. This was the situation in the famous Telecom-Clear litigation. In Telecom v Clear Communications [1995] the Privy Council found that Telecom’s price in its offer to Clear up until the High Court hearing in 1992 was in breach of section 36. That case also sanctioned the use by Telecom of the Baumol-Willig rule. This rule has attracted criticism because it does not act, in itself, to eliminate any monopoly rents resulting from the pricing of a hypothetical monopolist. According to the Privy Council, it provides a “level playing-field” upon which monopoly rents may be competed away. However, at least one commentator has pointed out “[t]he default position in New Zealand is the legality of monopoly pricing, unless and until political action is taken to curtail pricing abuses.”

As noted in Chapter 6, there have been a number of legal cases relating to port companies over the past decade.

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165 Telecom’s pricing policy was subsequently changed and it was this policy that was declared lawful by the Privy Council in 1995.

For example, in *Centreport v Pacifica* [2000] the High Court commented on competing methods of pricing offered by both sides in the case. In that case it found the pricing methodology by Centreport, based on ODV valuation, to be “mainstream [and] unexceptional”. In *Commerce Commission v Port Nelson* [1996] the High Court heard expert testimony on the costs of provision of tug services, and decided that Port Nelson charges were below cost. In *New Zealand Rail v Port of Marlborough* [1993] the Court of Appeal commented that fees based on capturing a portion of New Zealand Rail’s alleged monopoly profits were unreasonable.

In each of these cases the underlying rationale of ports pricing was assessed and its reasonableness determined or commented on. To date, there has been no instance in which the pricing of ports has been found to be so high as to be in breach of the Commerce Act.

The Courts have also examined, and reprimanded where appropriate, non-pricing behaviour of ports. An early test of the Commerce Act in the ports industry occurred in *Union Shipping v Nelson Port Company* [1990] where the port was found to be in breach of section 36 by first banning, and then deterring, the use of capital other than that owned by the port. In 1996 *Commerce Commission v Port Nelson* established a breach of section 36 when Port Nelson refused independent pilots access to its tugs. The Court also found breaches of section 27 when Port Nelson priced pilotage charges below cost, and offered a five percent discount when all services used were provided by Port Nelson. Both actions were deemed to have the purpose of substantially lessening competition.

Case history provides little guide as to what level of pricing by ports would be deemed to be in breach of the Commerce Act. In many cases normal competitive pressures on ports have removed the possibility of monopolistic pricing and conduct. However, in some instances, ports appear to have potential market power. In cases where ports exercise that power by refusing to negotiate on price or service, by overpricing, by cross subsidising between markets and customers, there is a down-side to relying only on general competition laws. The protracted re-negotiation of the contract between Methanex and Westgate outlined in chapter 6 is testament to this potential for substantial costs – on both sides – to be incurred in settling disputes.

### 7.3 OPTIONS

New Zealand ports operate under industry-specific regulation and a general competition regime. This generally appears to maintain an environment conducive to competitive and efficient port operations – a conclusion borne out in our assessment of the performance of New Zealand ports and the comments of most market participants we spoke to.
In certain situations where ports have engaged in anti-competitive conduct, competition laws have been used effectively, as in the Port Nelson cases. However, in other instances where ports could enjoy some market power, and protracted disputes between port companies and their customers have developed, the general competition regime appears to provide little guidance on resolution.\footnote{We note that New Zealand’s general competition law has fewer provisions for addressing business disputes or vertical imbalances between small and big business than, say, Australian legislation under the \textit{Trade Practices Act 1974} (TPA). The latter has strengthened unconscionable conduct provisions (section 51AC), refusal to deal provisions (section 47), and scope for industry codes of conduct to be made mandatory and to be administered by the ACCC (under sections 51AD & 51AE) – as has happened with the Franchising Code of Conduct. This is in addition to having, what we understand to be, a wider misuse of market power provision (section 46), and generic access legislation (under Part IIIA).}

There has been a history of protracted legal cases between ports and their customers in New Zealand.

While disputes between ports and their customers will affect transfers between consumers and producers, it appears likely that in some instances this has also resulted in price/quantity outcomes which may differ from welfare maximising, competitive levels. An example is where prices have remained out of kilter with costs over long periods, as appears to have been the case in Methanex and Westgate. That case also shows that significant time and money can be spent trying to negotiate/litigate outcomes closer to competitive levels. A targeted policy response may be welfare enhancing in this circumstance, although there are very real risks that overall welfare may in fact be diminished if this is not well implemented. So caution by policy makers in responding to this issue is well warranted.

In regard to policy responses, some market participants have raised concerns about the loss of “prime necessity” under the law but remain happy with the general performance of New Zealand’s ports.\footnote{This was the joint official view put by the New Zealand Shippers Council at our meeting with them.} Other customer groups have suggested activist policy responses.\footnote{This was the view put by the members of the New Zealand Shipping Council at our meeting with them.} Others have raised the possibility of more targeted responses focussed on mechanisms for resolving problems between ports and their customers in a timely and low cost manner.\footnote{Broadly, this was the general approach suggested by Methanex and their legal counsel at our meeting with them.}

Overall, a number of options have been put forward for dealing with market power issues in the ports industry. These include:

- a Price Control inquiry by the Commerce Commission under Part IV of the Commerce Act (possibly leading to some form of regulated pricing regime);
• introduction of an access regime to apply to ports under the Commerce Act (along similar lines to Part IIIA of TPA in Australia);

• amendment of the Port Companies Act to obligate port companies to operate as ports and not just as a successful business (motivated by valuation issues and concerns by users about non-core port operations);

• an information disclosure regime to apply to ports in order to address cross-subsidisation concerns and unlock the individual components of cost and price (over and above the existing requirements under the Ports Companies Act and the companies law);

• alternative dispute resolution (ADR) procedures to act as a “circuit breaker” in circumstances where ports refuse to negotiate with users over prices and service (also involving some level of information disclosure to the mediator in order to reach a view on pricing); and

• direction or advice to the Commerce Commission to pay increased attention to the application of the Commerce Act to port companies (within their enforcement priorities).

We explore the relative merits of these options in the following chapter which forms a conclusion to the study of market power in New Zealand ports.
8. CONCLUSION

Based on our inquiries and the evidence presented above, it is our view that the overall extent of the market power issues associated with the ports industry is not sufficient to warrant large-scale policy intervention. Large-scale policy responses such as a price inquiry or major changes to general competition laws and other industry-specific legislation impacting on the ports industry are not justified. The problem of market power faced by a particular group of port customers and confined to certain types of conduct; any solution should be targeted at addressing the problems facing that group of users. Put another way, it is likely that the effect of any ports market power on industry output levels is small and the associated welfare losses are not likely to be large relative to the entire industry, even though transfers from some customers to port companies may be significant.

Since poorly targeted and implemented policy responses to market failure problems can impose costs on markets which are otherwise functioning well (i.e. government failure) there is a risk that the overall welfare effects of policy action may be negative. This is most likely to occur where a large-scale policy response is taken to a relatively small-scale market failure problem. It is our view that industry-wide intervention is likely to have the effect of distorting the largely efficient outcomes achieved by a mostly competitive ports industry. In these circumstances, policy makers could take the view that continuing with current arrangements is preferable to taking any policy action at all. It is possible, however, that a small-scale and targeted response to the issue of ports market power could be welfare enhancing, if it were designed and implemented well.

To this end, there may be merit in introducing a “light-handed” dispute resolution mechanism to incentivise all parties to reach agreement rather than enter protracted disputes and litigation. Ideally, this should be a market-based mechanism, for example using mediation through industry experts, and avoid burdensome regulated or arbitrated outcomes. This could be coupled with other light-handed responses, such as asking the Commerce Commission to place a greater priority on investigating potential breaches of the Commerce Act by port companies.

We note, however, that in order to drive parties with the greatest bargaining strength towards mediated solutions there would need to be some ultimate sanction. There would also need to be some trigger-mechanism for identifying a legitimate (not vexatious or frivolous) dispute and for requiring sufficient information disclosure to the mediator. There would also need to be some mechanism for putting in place such a mediation requirement.

This raises a whole range of difficult questions in designing an effective alternative dispute resolution (ADR) scheme, for example:

- Which body should decide if a dispute should be mediated and what is its relationship to existing agencies (e.g. the Commerce Commission)?
• What is the relationship of the ADR mechanism to existing regulation (e.g. the Commerce Act)?

• What ultimate sanction should be used to encourage port companies and their customers to seek mediation?

• How would information disclosure to the mediator be handled and how far should this requirement go?

• What guidance should be provided to the mediator in terms of determining appropriate commercial terms and prices?

• Through what mechanism would this ADR scheme be implemented (e.g. legislation, regulation or non-legislative means)?

Answering these questions and designing such a scheme are well beyond the scope of this study. We note, however, that caution is necessary for policymakers here because even what is intended as a light-handed ADR scheme may contain elements that could become a form of industry regulation or price control – especially if the guidance to the mediator on terms and pricing comes to be seen as a pricing mechanism or formula, rather than simply as means to break deadlocks. That is not our intent in suggesting this.

Non-legislative mechanisms such as an industry-specific code of conduct are preferable to more interventionist approaches, such as amendments to general competition legislation.171

The danger is that in order to achieve all of this and to get a workable scheme in place, even through non-legislative means, a considerable degree of regulatory oversight may need to be placed on the industry, imposing costs that are not justified by the potential benefits to be gained (i.e. given the present size of the welfare losses).

171 We note that using general competition laws, which have economy-wide application, to solve problems arising in a particular industry is generally to be resisted as a matter of good public policy.
In this circumstance a legitimate policy response is to continue with the current arrangements. Put another way, the present state of the world is not “first best” in the sense that the exercise of any market power by ports could be driving market outcomes away from competitive levels and imposing welfare losses. However, imposing requirements that are potentially intrusive runs the risk of ultimately imposing costs on the industry that outweigh the current welfare losses, even if the policy response was effective in eliminating the welfare losses. The policy response would therefore take us to an inferior state of the world. We are currently in a “second best” world, but probably not by a large order of magnitude. There is, however, a very real risk of moving to a “third best” outcome if a truly light-touch policy approach cannot be designed and implemented successfully.
APPENDIX A: KEY QUESTIONS

This appendix reproduces the set of key questions designed to set out the scope of the inquiry and to focus submissions.

The first set of questions deals with the issue of defining the relevant market(s). A market is an analytical device that is used to assess the level of competition between suppliers of the same, or closely substitutable, products and to determine the presence or absence of market power. The Commerce Act 1986 defines a market as:

... a market in New Zealand for goods or services as well as other goods or services that, as a matter of fact and commercial common sense, are substitutable for them.\textsuperscript{172}

It is usual to define markets in terms of four characteristics or dimensions:

- the characteristics of goods or services supplied and purchased (the product dimension);
- the level in the production or distribution chain (the functional or vertical level);
- the geographic area from which the goods or services are obtained, or within which the goods or services are supplied (the geographic extent); and
- the temporal dimension of the market, if relevant (the timeframe over which substitution to other options could take place or the effects of inter-temporal breaks).

The second set of questions is designed to assess the level of competition in the relevant markets and identify the extent of market power, if any, in the NZ ports industry. For ease of categorization these questions have been divided into three main groups:

- the structural characteristics of the ports industry (these questions will necessarily overlap somewhat with the market definition questions);
- the extent of competition amongst market participants; and
- the outcomes being delivered by the ports industry (e.g. in terms of price, service quality, speed, etc.).

\textsuperscript{172} More detail on market definition is provided in Commerce Commission (2001) Practice Note 4: The Commission’s Approach to Adjudicating on Business Acquisitions Under the Changed Threshold in Section 47 (Wellington, May), pages 15-24. Those stakeholders interested in obtaining a deeper understanding of market definition principles are encouraged to consult this document. It is available on the Commission’s website (www.comcom.govt.nz).
1. MARKET DEFINITION

1.1. Functional Market

1.1.1. Do you view ports as providing one seamless service or a number of discrete and independent services (e.g. towage, pilotage, stevedoring, provision of port infrastructure, etc.)?

1.1.2. Do these services represent different “vertical” dimensions in the chain of production (e.g. as with the separation between the manufacture, distribution and sale of cars) or are they really a “bundled” group of related horizontal services (such that economies of scope and complementarity favour joint supply by a common owner)?

1.2. Product Market

1.2.1. To what extent do other transport options provide an alternative to shipping or trans-shipping for port users (e.g. rail and road transport, air transport, etc.)? How does this vary with cargo type?

1.2.2. What are the determining factors in choice of port for port users? How do these differ among different cargo types (e.g. passenger, bulk, RO/RO, container freight, etc.)?

1.2.3. Do the services provided to different port users (e.g. passenger, bulk, RO/RO, container, etc) form part of the same market, or are the services provided so different (e.g. different berthing requirements, equipment, etc.) that they justify separate and distinct markets?

1.3. Geographic Market

1.3.1. If a port increased its prices by, say, 5 percent, would a customer be able to economically substitute to another port?

1.3.2. What is the geographic market (catchment area) of NZ ports? Does this vary by size of port? If so, how?

1.3.3. Does the geographic market (catchment area) of a port vary depending on the type of cargo or the type of shipping (e.g. bulk goods versus container traffic)? If so, how?

1.3.4. Is there evidence of port users switching between ports in different geographic localities based on price or service quality?

1.3.5. What impact do land transport costs have on the choice of port?
1.4. Time Dimension

1.4.1. Is there evidence of port users substituting port services for other transport modes (e.g. switching to air or road) or switching means of shipping products through ports over time (e.g. switching from bulk to container freight)? If so, over what time-frame has this taken place?

1.4.2. Are there discontinuities or lumpiness (e.g. long-term contracts) that affect the substitution possibilities over time in regard to port services? If so, how?

2. MARKET CHARACTERISTICS

2.1. Inter-port Competition

2.1.1. To what extent are port companies exposed to effective inter-port competition? What impact does this have on the level of prices and quality of service? What evidence is there?

2.1.2. What percentage of port trade can be considered to be “captive” to a particular port (i.e. in the sense that inter-port substitution is not viable)? Which types of cargo are most likely to be captive? Are there trends of decreasing captivity of cargoes over time?

2.1.3. To what extent have improvements in road, rail and shipping transport enhanced inter-port competition?

2.1.4. To what extent have any changes in coastal shipping activity affected inter-port competition?

2.1.5. To what degree are NZ ports differentiated from one another in terms of the facilities and functions they offer users?

2.1.6. Have existing port companies diversified into new trade segments to attract trade from other ports?

2.1.7. To what extent do port users invest in port infrastructure and suprastructure (e.g. establishing specialised docking facilities and equipment)?

2.2. Intra-port Competition

2.2.1. To what extent is there competition for the provision of discrete port services within ports (e.g. for stevedoring services, towage/pilotage, competing terminals, etc.)?
2.2.2 Are some port services most efficiently supplied by a single firm? (for example, due to high fixed costs)?

2.2.3 Are there efficiency gains in one firm providing a “bundle” of port services as opposed to firms independently supplying discrete port services?

2.2.4 To what extent are operations within a port segmented and operated/owned by different firms (e.g. competing terminals within a port)?

2.2.5 To what degree is segmentation possible? What effect would segmentation have on the pricing and efficiency of port operations?

2.2.6 What impact has the provision of common user facilities by port companies had on the price and quality of port services?

2.2.7 Are there agreements that limit intra-port competition (e.g. exclusive agreements between the port infrastructure provider and port services companies, tying agreements, most-favoured customer, etc.)?

2.3. **ENTRY CONDITIONS**

2.3.1 Have new ports been established or attempts made to establish new ports? Is this likely to occur in the future?

2.3.2 Have new facilities been developed in ports by competing port services companies or by port users?

2.3.3 Has there been entry of new firms in the provision of port services (e.g. in towage, pilotage, stevedoring, etc.)?

2.3.4 What are the major impediments to establishing new ports or new port services at existing ports?

2.4. **DEGREE OF VERTICAL INTEGRATION**

2.4.1 To what extent are port services vertically integrated in NZ (i.e. common ownership/operation of stevedoring, towage, pilotage, port infrastructure, shipping lines, land transport companies, exporters/importers, etc)?

2.4.2 What type of relationships/agreements exist between inland transport operators and port companies and shipping companies?
2.4.3 What effect does vertical integration have on the quality and pricing of port services? Is there evidence that vertical integration enhances or inhibits intra-port and inter-port competition?

2.4.4 Is there evidence of discrimination in the provision of access by third parties or new entrants to port services?

2.4.5 Are there vertical contracts in place that might be regarded as anti-competitive?

2.5. **Degree of Horizontal Integration**

2.5.1 Do common ownership links across ports for port infrastructure and/or port service providers reduce the level of inter-port competition?

2.6. **Countervailing Power of Customers**

2.6.1 What is the relative degree of bargaining power between port companies and port users (e.g. shipping companies, key exporters and importers)? What impact has this had on price/quality of port services? How does this vary between port users?

2.6.2 Are the port users in a position to provide some port services themselves (i.e. by integrating forward/backward or sponsoring entry)?

2.6.3 What is the potential for global switching in terms of export goods to constrain port pricing (e.g. if NZ ports are too expensive for shipping logs, will major buyers look to other sources of supply, such as East Asia or Russia)?

3. **COMPETITION**

3.1. **Objectives**

3.1.1 What are the underlying objectives of NZ port companies (e.g. is it profit maximization, maximization of trade flows, regional development, promoting international competitiveness, etc)? Are these appropriate? If not, why not?

3.2. **Pricing**

3.2.1 Are port tariffs and charges readily comparable between NZ ports (e.g. are charges for port services such as towage, pilotage, and cargo handling separately identifiable or are they bundled into an all-inclusive charge)? If they are comparable, how do they compare?
3.2.2 How are port tariffs and charges calculated (e.g. value or volume of cargo, size of ship etc.)? Is there any evidence that vertically integrated port companies cross-subsidise aspects of their operations?

3.2.3 Is there evidence that port charges and tariffs are related to the cost of the provision of the services or other factors?

3.2.4 Is there evidence of differential pricing between different port users or groups of port users (e.g. between larger and smaller users, exporters and importers, trans-shipment or international lines)? If so, why?

3.2.5 Is there evidence of strategic pricing to deter or eliminate a competitor or potential competitor in the ports industry?

3.3. LEVELS OF COMPETITION

3.3.1 Is there evidence of active competition and rivalry between port companies for business? Does this occur for all types of business or only for certain types of business at the margin?

3.3.2 Does competitive rivalry between ports manifest itself in price competition (lower tariffs/charges) or improved quality of services (e.g. crane rates, berth availability, ship waiting times, safety, etc.) or both?

3.3.3 Have mergers and acquisitions in the ports industry resulted in a more or less competitive environment?

3.3.4 Is there evidence of low levels of competitive discipline on port companies and service providers (e.g. prices to users rising as costs fall, reduction in quality of services as prices rise, etc.)?

3.3.5 Does lack of competition affect particular trade segments more than others (e.g. captive bulk cargoes or coastal shippers)?

3.3.6 Why is the handling of containerised cargo considered to be extremely competitive between NZ ports?

3.3.7 Are there any relationships/contracts/agreements between port companies and port services companies that have the effect of reducing the level of competition?

3.3.8 Are there interrelationships between port users and port companies that may have the effect of reducing the level of competition?

4. MARKET OUTCOMES
4.1. **PERFORMANCE**

4.1.1. Have the charges/tariffs for port services either collectively or individually increased, decreased or remained stable over the past 5 years? If so, why?

4.1.2. Is there evidence that port companies earn abnormal levels of profits compared to other NZ industries? If so, why?

4.1.3. How do you rate the current service quality provided by NZ ports (e.g. in terms of crane rates, berth availability, ship waiting times, safety, etc)?

4.1.4. Is there evidence of recent efficiency gains in the operation of port services (e.g. in terms of cost savings or improved quality of outputs)? Are there currently inefficiencies in port services (e.g. duplication, poor practices)?

4.1.5. Are there any benchmarking studies comparing NZ (and overseas) ports? If so, what do they show?

4.1.6. Is there evidence of under- or over-utilisation of port assets (e.g. poor berth occupancy, ship waiting, congestion, etc.)

4.1.7. Is there evidence of innovation by port companies (e.g. introduction of new and improved services and/or infrastructure and equipment)? How does this compare internationally?

4.2. **ANTI-COMPETITIVE CONDUCT**

4.2.1. Is there evidence of misuse of market power by NZ ports (e.g. excessive port charges, predatory pricing, foreclosure of access to port facilities, misuse of monopoly position, unconscionable conduct, etc.)?

4.2.2. Can you identify any specific occurrences/evidence?

4.2.3. What types/location of ports are engaging in the exercise of market power? What customer groups are most at risk (e.g. smaller customers, particular types of shippers/producers, particular types of ships/shipping, etc.)? What is the frequency and magnitude of occurrences of the exercise of market power?

4.3. **REGULATION**
4.3.1. Is the existing regulatory and governance regime for ports (e.g. through administration of the Commerce Act and the Port Companies Act) adequate for dealing with market power issues relating to NZ ports?

4.3.2. If not, what alternative mechanisms could be employed to address any market power concerns (e.g. pricing transparency, vertical disaggregation, greater activism by the Commerce Commission in this sector of the economy)?
APPENDIX B: LIST OF CONSULTED PARTIES

The following parties were interviewed either in person or via the telephone as a part of our consultation process:

- Northland Port Corporation (NZ) Ltd;
- Port Marlborough New Zealand Ltd;
- Port Gisborne Ltd;
- Port of Timaru Ltd;
- Port Otago Ltd;
- South Port New Zealand Ltd;
- Lyttelton Port Company Ltd;
- CentrePort Ltd;
- Port Nelson Ltd;
- Ports of Auckland Ltd;
- Port of Napier Ltd;
- Tranz Rail Ltd;
- Pacifica Shipping (1985) Ltd;
- Simon Terry;
- New Zealand Stevedores Association;
- New Zealand Stevedoring Employers Association Inc;
- Westgate Transport Ltd;
- Importers Institute;
- Methanex New Zealand Ltd;
- Fonterra;
- New Zealand Shipping Federation Inc.;
- P&O Nedlloyd;
• New Zealand Council of Trade Unions;
• New Zealand Shippers Council Inc.; and
• Business New Zealand.
APPENDIX C: SUBMISSIONS RECEIVED

Written submissions were received from the following interested parties:

- Reef Shipping;
- Cosco New Zealand Ltd;
- Leonard & Dingley;
- New Zealand Stevedoring Employers Association Inc.;
- Pan Pac Forest Products Ltd;
- Polarcold Stores Ltd;
- J.W. Ian Cook;
- McKay Shipping Ltd;
- Port of Napier;
- Port of Tauranga;
- Port Nelson – 2 submissions;
- Centreport Wellington;
- Lyttelton Port Company;
- Southport;
- Business New Zealand (plus a supplementary submission);
- Federated Farmers of New Zealand (Inc);
- Pacifica Transport Group – 2 submissions;
- Pacifica Shipping (1985) Ltd;
- P&O Nedlloyd;
- Graham Cleghorn;
- Tranz Rail Ltd;
- Employers & Manufacturers’ Northern Inc.;
- Ravensdown Fertilizer Co-operative Ltd;
• Solid Energy NZ Ltd;
• Port Company Reform Working Group – 2 submissions;
• Carter Holt Harvey (Lodestar);
• T.M. Bailey, Carter Holt Harvey;
• New Zealand Association of Shipping Agents;
• Steve Blowers, CP Ships;
• Roger N Taylor;
• New Zealand Forest Owners’ Association Inc.; and
• Silver Fern Shipping.