



International freight transport services inquiry

April 2012

The Productivity Commission aims to provide insightful, well-informed and accessible advice that leads to the best possible improvement in the wellbeing of New Zealanders.

International Freight Transport Services Inquiry

April 2012

The New Zealand Productivity Commission

The Commission – an independent Crown Entity – completes in-depth inquiry reports on topics selected by the Government, carries out productivity-related research, and promotes understanding of productivity issues. The Commission’s work is guided by the *New Zealand Productivity Commission Act 2010*.

Information on the Commission can be found on www.productivity.govt.nz or by calling +64 4 903 5150.

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Foreword

New Zealand importers and exporters spend about \$5 billion on freight services each year. These services provide essential connections between New Zealand and the international economy – allowing New Zealand products to be exported to markets all over the world and allowing New Zealand businesses and consumers access to a wide range of imported goods, equipment and materials.

The Commission has been looking at whether the efficiency of these services can be improved. For businesses this would mean more competitive exports and higher profits. For consumers it would mean cheaper prices and greater spending power.

As the most remote developed country in the world, having highly efficient international freight services is crucial for New Zealand's economy and for the wellbeing of its citizens.

Our investigations have revealed that while the performance of New Zealand's international freight system is good, opportunities exist to make it better. These opportunities exist in a wide range of areas and across many parts of the logistics chain – from better planning of infrastructure investments, to improvements in governance structures and more productive workplace relationships.

Many of the recommendations contained in the report are aimed at central government, yet there are a number that are relevant to local government, the business community, and employees and their representatives. Together these recommendations form a concrete set of measures that would improve the efficiency of international freight services to the benefit of all New Zealanders – both now and in the future.

Through the course of the inquiry the Commission received over 100 submissions from stakeholders with a diverse range of interests and backgrounds. These submissions, together with views expressed during some 90 stakeholder engagement meetings, have assisted the Commission in developing its understanding of the key issues and in formulating its findings and recommendations. I would like to express my thanks to all those who provided this valuable information.

Preparation of the report was overseen by all of our Commissioners: Professor Sally Davenport, Dr Graham Scott and myself. We would particularly like to acknowledge the work and commitment of the inquiry team – Geoff Lewis (Inquiry Director), David Heatley, James Soligo, Dennis MacManus and Steen Videbeck – and other Commission staff and external providers that made important contributions to the work.



MURRAY SHERWIN

Chair

April 2012

Terms of reference

The Government has asked the Productivity Commission to undertake an inquiry into international freight transport services.

New Zealand Productivity Commission Inquiry into International Freight Transport Services

Issued by the Minister of Finance, the Minister of Commerce, the Minister of Transport, and the Minister for Regulatory Reform ('the referring Ministers').

Pursuant to sections 9 and 11 of the New Zealand Productivity Commission Act 2010, we hereby request that the New Zealand Productivity Commission ('the Commission') undertake an inquiry into international freight transport services.

Context

Increasing international trade is a critical part of achieving productivity growth in New Zealand. Given that freight transport costs (including port charges) currently represent a sizeable proportion of international trading costs for New Zealand firms, it is important to ensure that New Zealand's infrastructure and regulatory regimes are effective in promoting accessibility and efficiency in international freight transport services, while continuing to meet New Zealand's international obligations. Currently, certain aspects of international carriage by air and sea are exempted from parts of the Commerce Act 1986 and subject to industry-specific regimes under Part IX of the Civil Aviation Act 1990 and Part 1 of the Shipping Act 1987 respectively.

Scope

Having regard to the context outlined above, the referring Ministers request that the Commission undertake an inquiry to evaluate the factors influencing the accessibility and efficiency of international freight transport services available to New Zealand firms, and opportunities to increase the accessibility and efficiency of these services. For the purposes of this evaluation the Commission should:

- Identify and analyse the cost of all components of the international freight transport supply chain for New Zealand importers and exporters.
- Identify any impediments to the accessibility of the international freight transport services, and to competition within and between the components of the international freight transport supply chain.
- Identify mechanisms available to improve the accessibility and efficiency of the international transport supply chain.

Particular attention should be given, without limitation, to the following matters:

- a) the nature of New Zealand's international trade, including the effects of distance from overseas markets and reliance on overseas providers of international freight transport services;
- b) factors influencing the accessibility, cost and efficiency of New Zealand's international freight transport supply chain, with international comparisons;
- c) the level and growth of productivity in all components of New Zealand's international freight transport supply chain, with international comparisons; and
- d) the effectiveness of current regulatory regimes (including those noted above in the Civil Aviation Act 1990 and the Shipping Act 1987) affecting international freight transport services in promoting accessibility and competition, and the potential costs and benefits of alternative regulatory arrangements with international comparisons.

Consultation Requirements

In undertaking this review, the Commission should consult with key interest groups and affected parties.

Timeframe

The Commission must publish a draft report and/or discussion paper(s) on the inquiry for public comment, followed by a final report, which must be submitted to each of the referring Ministers by 1 April 2012.

BILL ENGLISH, MINISTER OF FINANCE
SIMON POWER, MINISTER OF COMMERCE
STEVEN JOYCE, MINISTER OF TRANSPORT
RODNEY HIDE, MINISTER FOR REGULATORY REFORM

30 MARCH 2011

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KEY

F

Findings

R

Recommendations

Commonly used terms

Term	Description
access regime	An access regime provides a means for businesses to use the services of 'essential' infrastructure, such as gas pipelines, that is uneconomic to duplicate. Without such regulation, infrastructure owners might deny access to their facilities or charge monopoly prices for their services. This could be costly for the community.
ad valorem freight costs	The cost of freight as a proportion of the value of the cargo (percentage of value).
air service agreement	A bilateral or multilateral agreement in which states exchange rights of airlines to carry traffic in and out of their territories. Air services agreements cover matters such as the routes that may be flown, the capacity that may be offered by airlines, how many airlines may operate, and how tariffs (ie, prices) may be regulated.
air transport prices	The prices charged by airlines for the transport of freight between airports; ie, air freight prices less charges incurred on the ground.
allocative efficiency	Achieved when the goods produced correspond best to what people want. In general, no barriers to trade and prices that reflect the marginal social costs of production will result in a product mix that is allocatively efficient.
anti-trust	Competition law is known in the United States as anti-trust law. Competition law promotes or maintains market competition through the regulation of anti-competitive conduct by companies.
barriers to entry	Factors which prevent or deter the entry of new firms into a market.
bellyhold freight	Freight stowed under the main deck of an aircraft.
benchmark competition	Benchmark competition is based on the compilation of performance indicators by an independent organisation. Typically these indicators are published with sufficient analysis to allow interested parties to make an informed comparison of the performance of the companies of interest.
biosecurity	Actions taken to limit the damage caused by biological threats such as invasive species of pest plants and animals.
border security	Arrangements covering passage of people or freight across the border of a country, including security, customs and biosecurity.
break-bulk	Non-containerised cargo, that is usually of peculiar mass or shape and would be difficult to pack in containers.
bulk cargo	Cargo unsuitable for packages or containers. Shipped loose in the hold of a ship without mark and count. For example, coal, oil and cement.
cabotage	The reservation of a country's domestic coastal trade to shipping operators of that country (In the context of airlines see Appendix B.)

Term	Description
capacity-limiting agreement	An agreement between competitors to limit capacity with the intention of increasing price. A form of ratemaking agreement.
carrier	A shipping line or airline.
cartel	An association of competitors that, by agreement, limits the degree of competition that would otherwise prevail in the buying and selling of goods and services by members of the cartel.
casualisation	The process of replacing permanent positions with casual or short-term contract employees. Often confused with 'contracting out'.
collaboration agreement	An agreement between two or more carriers regarding the joint supply of services. (Also called a cooperation agreement.)
collective bargaining	The process through which an employer and representatives of employees (unions) negotiate the terms and conditions of an employment relationship.
collusion	Cooperation of industry rivals for their mutual benefit and at the expense of competitive outcomes.
commission regime	A government authorisation for commissions that travel agents and cargo agents charge airlines for booking passengers or cargo onto aircraft. These commission regimes, once issued, have the effect of exempting commissions from Part 2 of the Commerce Act.
competition regime	The laws that regulate competition in a specific market.
compositional factors	Factors that affect the cost of freight transport at an aggregate level. eg, the composition of goods transported and the mix of trade partners.
conference	A route-specific agreement between shipping carriers on conditions for the carriage of cargo. Carriers agree to apply common freight rates, coordinate the scheduling of sailings and ports of call, regulate capacity, and allocate cargo and revenues.
consolidation agent	Freight forwarder or other organisation that combines demand for freight services.
contestable	A market in which new entrants are able to enter and compete with existing participants.
continuous disclosure	An ongoing obligation on a company to promptly inform the public of significant corporate events, both favourable and unfavourable.
contracting out	A situation where one company enters into a contract with another to supply services. The concept is often associated with the 'outsourcing' of services whereby a company transfers the provision of a service previously performed by in-house employees to an external supplier. Often confused with casualisation.
cooperation agreement	An agreement between two or more carriers regarding the joint supply of services. (Also called a collaboration agreement.)

Term	Description
cost of capital	The financial return investors require from an investment given its risk.
custom and practice	A long-standing work practice that, in certain circumstances, can be interpreted as a contractual term under a collective agreement, or taken into account by courts when interpreting an ambiguous contractual term.
dynamic efficiency	Dynamic efficiency is achieved when optimal decisions are made on investment, innovation, and market entry and exit, to create productive and allocative efficiency in the longer term.
economic distance	The 'distance' between two geographical locations, as measured by the total cost to trade between them (including freight costs and tariffs).
economic efficiency	Economic efficiency requires an optimal allocation of productive resources and incentives for efficient use over time. Dimensions of economic efficiency are discussed in section 2.1.
economic value added (EVA) analysis	EVA analysis assesses the difference between the operating rate of return of a firm and its weighted cost of capital. In broad terms, this shows whether returns were sufficient to justify investment in the company, compared with an alternative use of the funds.
efficiency	Getting the most out of the resources used.
emissions trading scheme (ETS)	A system aimed at minimising the cost of achieving a predetermined reduction in greenhouse gas emissions by creating a market for emission permits and allowing emitters to buy and sell permits.
exemption	A formal exclusion from the provisions of legislation; eg, an exclusion from general competition law.
export intensity	The value of a country's exports as a percentage of its GDP.
external costs and benefits	External costs or benefits arising from an economic activity that affect somebody other than the people engaged in the economic activity and are not reflected fully in prices.
externality	An external cost or benefit (see above).
facilitated discussion	Government brings together relevant stakeholders and leads them through a discussion process towards the development of a common view of the future and voluntarily agreed plans for coordinated actions.
factors of production	The ingredients of economic activity: land, labour, capital, information and enterprise.
freight costs	The cost charged for moving goods, including packing, documentation and loading/unloading charges, transport charges, and insurance while in transit.
freight forwarder	A person or company that organises shipments for other firms and may also act as a carrier.
good faith	A legal term used in the Employment Relations Act 2000 to describe a standard of behaviour that parties to an employment relationship must adhere to. For example, under

Term	Description
	the Act 'good faith' requires parties to be active and constructive in establishing and maintaining a productive employment relationship.
governance	The distribution of rights and responsibilities among the different participants in an organisation – such as the board, managers, shareholders and other stakeholders. Effective governance ensures that the organisation makes value-maximising decisions across all of its functions and activities.
hard infrastructure	Physical infrastructure such as roads, bridges, railway lines, vehicles and ports.
high-productivity motor vehicles (HPMV)	Vehicles that can carry longer and/or heavier loads than normally permitted on New Zealand roads.
high-productivity workplaces	Workplaces that efficiently turn inputs, including labour and capital, into outputs (products and services). At an economy-wide level, workplace productivity is a key driver of income growth and improvements in the material standard of living.
holding company	A firm limited to holding shares in and supervising the management of other firms (a portfolio of subsidiaries). A holding company is an active investor; it can be thus distinguished from passive investors such as mutual funds. Holding companies aim to create value through their roles as financial intermediaries and active shareholders.
hub and spoke	A transportation model in which freight is consolidated at a central port or airport (or hub). The hub port, for example, is fed by road, rail and coastal shipping services (or spokes).
hubbing	The movement of freight through a central port or location.
individual service contract	A contract between a carrier and a single shipper for the supply of freight transport services.
information disclosure regime	A regime specified in Part 4 of the Commerce Act designed to promote the efficient operation of markets through ensuring that suppliers make publicly available reliable and timely information about their operation and behaviour, so that a wide range of people are informed about such factors as profits, costs, asset values, price, quality and reliability.
institutions	A country's institutions – broadly conceived – include all the formal rules and informal conventions or norms that shape the political, economic and social behaviours of members of society.
internal costs and benefits	Costs and benefits that are incurred by a firm or individual and as such are factored into production or consumption decisions.
internalise	When individuals or firms take external costs or benefits into account (eg, because of regulation or taxation), those external costs or benefits are said to be internalised.
liner service	A shipping service that operates within a schedule and has a fixed port rotation with published dates of calls at the advertised ports. Cargo is generally carried in containers.
logistics	Management of the flow of goods between the point of production and the point of consumption in order to meet customer requirements.

Term	Description
lumpy investment	Investments that are, by their nature, large, indivisible and infrequent.
market failure	Market failures are scenarios where otherwise unregulated markets produce results that are not efficient – ie, they can be improved upon from the societal point of view. Examples include the abuse of monopoly power, and environmental degradation.
market power	The ability of a firm to alter the market price of a good or service.
marshalling	The moving of freight between connecting road or rail transport and loading and unloading by stevedores.
monopoly	A monopoly exists when a specific person or enterprise is the only supplier of a particular commodity.
mutual recognition agreement	An international agreement by which two or more countries agree to recognize one another's compliance procedures for goods traded between those countries.
national policy statement	An instrument available to central government under the Resource Management Act to help local government decide how competing national benefits and local costs should be balanced.
network utility operator	Defined in s.166 of the Resource Management Act 1991 and discussed in section 8.4.
non-ratemaking agreement	An agreement between carriers regarding a shipping route that does not involve setting prices, or limiting capacity with the intention of raising prices.
offshore	Located or based outside a country's national boundaries.
onshore	Located or based within a country's national boundaries.
operational efficiency	Used in this report to mean economic efficiency with a focus on the short to medium term; ie, excluding consideration of dynamic efficiency.
opportunity cost	The cost of passing up the next best choice when making a decision.
pay-as-you-go (PAYGO)	A way of funding and accounting for public infrastructure, applied in New Zealand to roads. All upgrades and maintenance are funded from current revenue, but no financial return is expected from any initial investment.
policy lever	Any tool available to government that can be applied or adjusted to change the behaviour of individuals and groups.
port handling charges	The fees levied on carriers and cargo owners by port authorities.
price fixing	Agreement between competitors that sets the price of a good or service, or interferes with how that price is reached by a market.
price signals	The information conveyed by the relative level of prices, or by a change in price. Rising prices generally 'signal' a shortage of supply, an increase in demand, or a rise in input

Term	Description
	costs. Falling prices generally signal the opposite conditions.
productive efficiency	Achieved when goods and services are produced at the lowest cost of production.
productivity	A measure of output per unit of input. For further definitions see Box 3.2 in Chapter 3.
public goods	Goods that satisfy two criteria: they are non-rival (ie, one person's use of the good does not impair others' use) and non-excludable (ie, it is not practical to exclude people who do not pay from using the good). Examples include national defence, basic scientific research and national parks.
rate of return	The financial returns on an investment, expressed as a percentage of the total amount invested.
ratemaking agreement	An agreement between carriers to set prices on a shipping route. Capacity-limiting agreements are also a form of ratemaking agreement.
reefer	Used to describe either a refrigerated container or a refrigerated ship.
regulation	A set of tools that governments use to achieve their aims.
regulatory impact analysis	A process for assessing proposals involving regulatory options. Assessment includes determination that the problem cannot be adequately addressed through private or non-regulatory arrangements, and that a regulatory solution is required in the public interest.
rent-seeking	Lobbying to obtain a benefit rather than adding value through creating a benefit.
revenue pooling	An arrangement between the carriers operating a service to share a proportion of revenue. Revenue pools are a mechanism to restrain competition between carriers for high freight-rate goods, and to prevent concealed rate undercutting.
road user charges (RUC)	A levy on diesel-powered vehicles based on the vehicle type, axle weight and distance.
sea transport costs	The prices charged by shipping lines for the transport of freight between ports; ie, sea freight prices less charges incurred onshore.
shipping cycle	The business cycle of the shipping industry. Often considered to have four stages: a trough (characterised by excess supply and a period of low prices); a recovery (where demand and prices begin to rise, soaking up some excess capacity from the market); a peak (where strong demand pushes prices high and vessel utilisation to near full capacity); and a collapse (demand slows and prices decline).
shipper	The party on whose account goods are consigned. A shipper can be an importer or an exporter.
soft infrastructure	Non-physical infrastructure – such as knowledge, skills and computer software.
specialisation	When a firm concentrates on making one good or one service in order to improve its productivity.

Term	Description
stevedoring	The loading and unloading of ships' cargoes.
strategic hold-up	Refusing agreement in order to extract concessions.
strategic planning	Used in this report to refer to long-term planning decisions, typically involving large capital investments and multiple decision makers.
string service	A shipping service that visits a number of ports as part of a larger loop.
supply chain	The stages or steps between the point of origin of goods and the point of consumption. (The term is related to but differentiated from 'logistics' above.)
tactical misinformation	Withholding or misrepresenting privately held information for private advantage.
tariff	A tax on imports typically collected at the border by customs agencies.
TEU	Twenty-foot equivalent unit. A standard measure where one unit is a 20 foot by 8 foot by 8 foot container.
time-sensitive cargo	Cargoes whose value declines while being transported, for example perishable or fashion items.
trade facilitation	A concept that considers the simplification, harmonisation and standardisation of trade procedures. Its principal aim is to reduce transaction costs in international trade, especially those between business and government border agencies.
Trade Single Window	An electronic platform aimed at streamlining border procedures. It will ultimately provide a single point for electronic submission of import and export documentation and associated payments. Part of the Government's Joint Border Management System.
transaction costs	Costs incurred by the parties making an economic exchange, other than the amount paid directly for the goods or service purchased.
transhipment	The transfer of cargo from one vessel to another at an intermediate port between the port of origin and the final destination port.
transit time	The time taken for cargo to be transported from its point of origin to its final destination.
user charges	Charges imposed on consumers for the use of services or products supplied by a government agency.
vertical integration	The control of two or more steps in a supply chain by a single company or entity.
work practice	A habitual manner of performing required work tasks that may or may not be prescribed in the written employment contract
workplace productivity	The rate at which firms turn inputs, including labour and capital, into outputs (products and services). See also 'high-productivity workplaces'.

Overview

What has the Commission been asked to do?

The Government asked the Commission to undertake an inquiry into international freight transport services. The key high-level questions for the inquiry were:

- What factors influence the accessibility and efficiency of international freight transport services available to New Zealand firms?
- Are there opportunities for changes in New Zealand's infrastructure and regulatory regimes that could increase the accessibility and efficiency of international freight transport services for New Zealand firms?

In answering these questions the Commission was asked to pay particular attention to:

- the effects of New Zealand's distance from overseas markets and reliance on overseas providers of international freight transport services;
- the costs, efficiency, productivity level and growth of all components of New Zealand's international freight services supply chain, with international comparisons; and
- the effectiveness of current regulatory regimes (including those in the Civil Aviation Act 1990 and Shipping Act 1987), and the potential costs and benefits of alternative regulatory arrangements, with international comparisons.

Why the inquiry is important

Trade and freight services are closely connected

International freight transport services provide essential connections between New Zealand and the international economy. They allow firms to access export markets and the imported raw materials, intermediate inputs, and equipment necessary for New Zealand's productive base. If international freight costs can be reduced, and quality and reliability improved, then trade will be enhanced, the economy can be more productive, and New Zealanders' wellbeing enhanced.

International trade is particularly relevant for a small and distant island nation such as New Zealand. It enables specialisation and access to resources and products that would otherwise be unavailable locally. It expands the range of technologies available to local firms and consumers, and promotes productivity growth because competition with foreign firms spurs local firms to be more efficient and innovative. New Zealand exporters will be more successful if they have access to required inputs, including imported goods, at internationally competitive prices.

New Zealand's small home market and distant location pose difficult challenges. The costs of being economically distant from key markets – both in terms of pure transport costs and the opportunity costs of time – impede New Zealand's ability to participate effectively in the global economy. Improving New Zealand's international freight system will help to reduce the effects of its geographical distance from markets. A more efficient and effective freight system can raise the prosperity of New Zealand's businesses and workers and enhance consumers' purchasing power.

Transport costs are significant

Transport costs affect the profitability of exporting industries, and if too high they may preclude a business from exporting at all. Where imported goods (for example, farm machinery) are used in the production of goods for export, higher trade costs hit exporters twice by making inputs more expensive and outputs less profitable.

Total freight costs for imports in 2010 were \$2.4 billion, excluding domestic onshore costs, such as inland transport in New Zealand. On reasonable assumptions, freight costs for exports were about \$2.6 billion in 2010. For both imports and exports this amounts to about 2.7% of GDP.

Figures such as these do not include the costs involved in the transit time that it takes for the product to reach its destination. Longer transit times involve costs such as deterioration of the product and delayed receipt of revenue. If transit times are unpredictable, or there are delays, a market opportunity may be missed and goods arrive when they have less value. If the goods are an input to a production process, delays could slow down production, which could be particularly costly for companies that operate 'just in time' production processes.

While it may be difficult to reduce travel times significantly without considerably increasing freight costs (for example, by switching from sea to air transport), useful gains may be made through, for instance, more efficient documentation requirements and customs processing times. Further costs would be incurred if exporters were unable to secure access to transport when they needed it and were willing to pay for it.

Trade costs also include customs and biosecurity charges, and tariffs. One task of this inquiry is to identify all significant sources of trade costs.

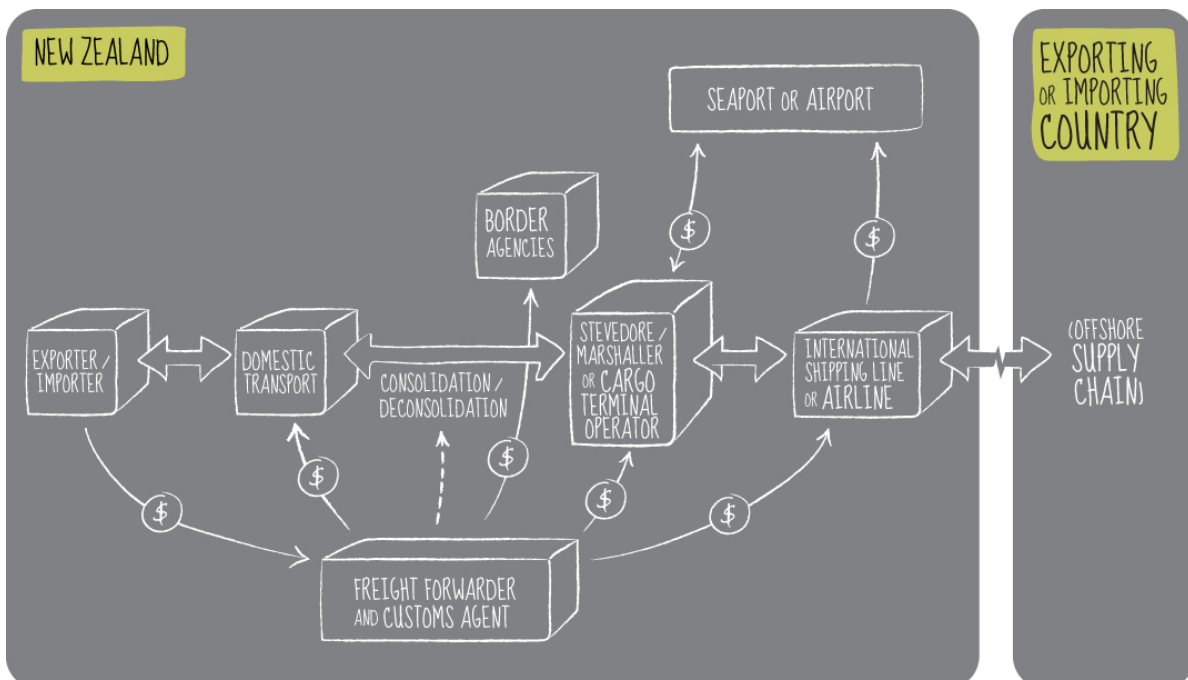
Key characteristics of international freight transport

A complex process

International freight logistics is a complex process involving different operators and contracting arrangements, as the figure below illustrates. The logistics chain can be split into five distinct phases, with New Zealand exporters and importers at the beginning and end of the chain respectively:

- from factory to port;
- at the export port;
- port to port (sea or air freight service);
- at the import port; and
- from port to warehouse.

Figure 0.1 The New Zealand leg of an international freight journey



Notes:

1. The thick arrows indicate the direction of the physical movement of freight, and the thin arrows indicate where payments for services tend to occur.

From the perspective of an importer or exporter, the key issue is the cost of the total supply chain, rather than just freight costs. Logistics is the process of efficiently moving goods from their point of production to their point of consumption in order to meet customer requirements, which typically include the quantity and quality of goods, service frequency, and the time and place of delivery. Freight is only one component of this logistics process. Logistics management aims to meet customer requirements at minimum cost.

Logistic costs and 'trade costs' are very much the same thing. To the extent these costs include the New Zealand transport leg of any international route, domestic transport costs are also relevant to this inquiry. Smaller importers and exporters may deal only with specialist freight forwarding or logistics firms, who take over responsibility for coordinating the other elements of the chain.

It is not just the absolute level of costs that matter. Paying a higher price for a logistics service is justified if the extra value from the customer's perspective outweighs the increment in price. What matters for many New Zealand businesses will be access to a menu of logistics services, from which they can choose the combination of price, quality, frequency and timeliness that best meets their requirements.

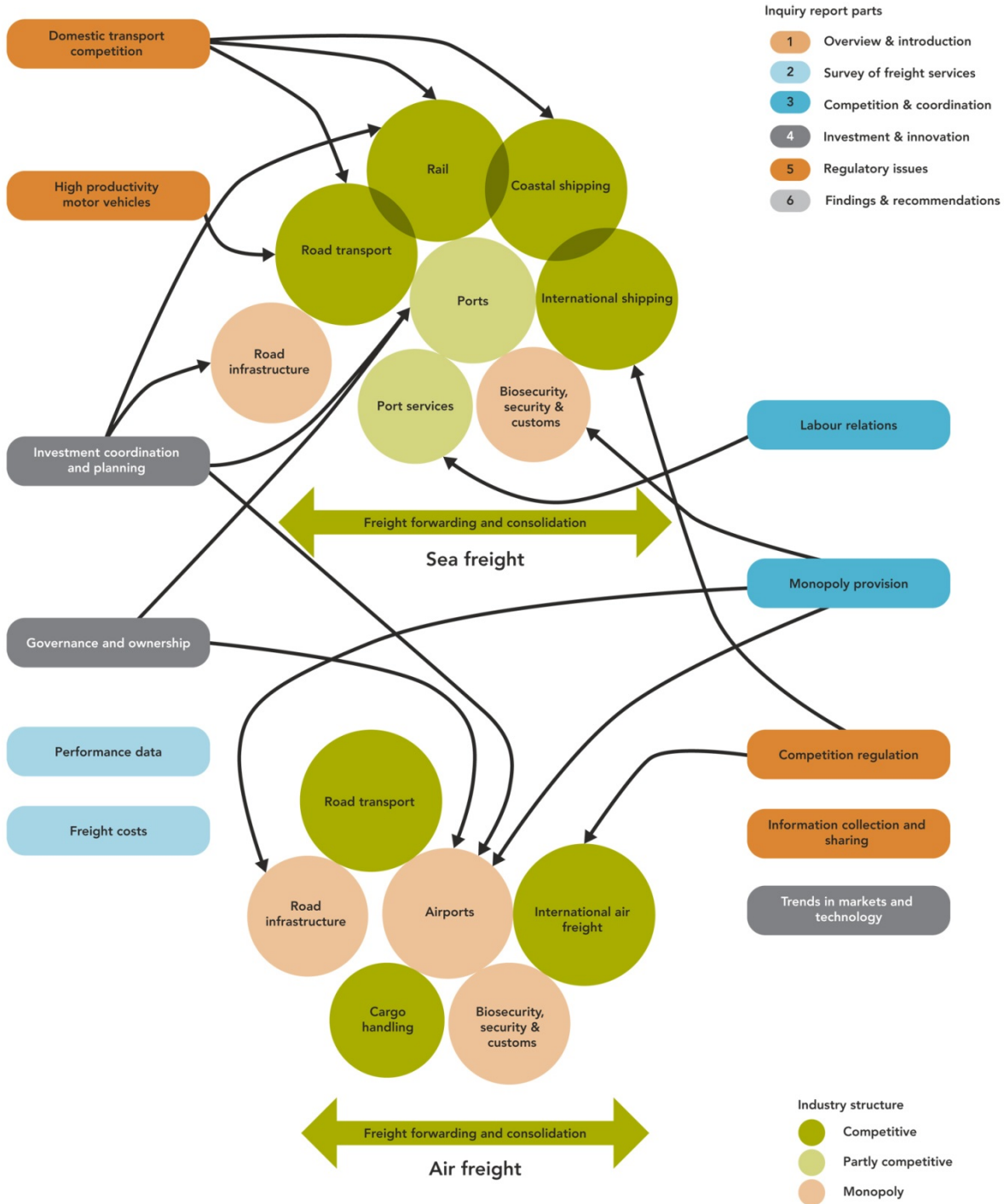
With many components

International freight transport services make up a system with distinct components. In the diagram overleaf, adjacent circles indicate a logistics interface between components; in essence, a handover point. An overlap between two circles indicates that, in addition to a point of interface, some competition exists between those components. For example, rail sometimes competes with road and coastal shipping transport; but at other times it connects with them as part of an overall logistics chain.

Based on the Commission's analysis of evidence presented during the inquiry, the circles are coloured to reflect an assignment of components into those with natural monopoly characteristics (light orange), those with the characteristics of competitive industries (green), and those that have the potential to be competitive (light green) but where competition may be limited. The rounded rectangles on each side of the figure indicate some important issues that are considered in the report.

Freight forwarders interact with all other components and are shown spanning them. Air and sea are alternative international freight modes. Thus, for some cargoes, ports compete with airports and international sea freight services compete with air freight services.

Figure 0.2 International freight transport system framework



How well is the sector performing?

The available data on the international freight sector’s costs, productivity, profitability and innovation indicate both pockets of good performance and significant opportunities for improvement.

Freight costs

- Ad valorem sea freight costs (measured as the price paid for freight relative to the value of the goods being transported) have been coming down over the last 20 years, although the rate of improvement slowed in the 2000s. After accounting for compositional factors, ad valorem sea freight costs are about 21% higher in New Zealand than in Australia.
- Case studies indicate that the sea transport component of container shipping prices are considerably higher for imports into or exports out of Auckland compared to Sydney. Lower trade volumes create

higher costs for New Zealand container shipping and provide a plausible explanation for at least part of the differences in freight prices observed.

- Ad valorem air freight costs decreased in the 1990s, but have flattened since then. After accounting for compositional factors, ad valorem air freight costs are about 15% higher in New Zealand than in Australia.
- Case studies suggest that air transport prices to and from Auckland are similar to those to and from Sydney.
- The onshore components of New Zealand's air and sea freight costs, particularly its port handling costs, compare favourably with Australia and other OECD countries.

Productivity indicators

- Productivity in New Zealand's transport and storage industry grew strongly in the 1990s, but hardly at all in the 2000s.
- Productivity measures indicate that New Zealand ports and airports compare favourably with Australian counterparts. Compared internationally, New Zealand customs services are efficient.
- Container productivity indicators show considerable variation in the performance of New Zealand's ports, with Tauranga the strongest performer. There may be opportunities to either lift the performance of the below-average performers or to shift freight towards the top performers.
- Compared internationally, New Zealand has low volumes of freight per kilometre of rail, and small trains and trucks.
- There is little information about the productivity of freight handling at airports. Auckland Airport's overall productivity (passenger and freight) compares favourably with other Asian and Pacific airports, while Christchurch is about average.
- The number of days taken to complete New Zealand's export and import requirements compares well with other countries, but is behind international best practice.

Other indicators

- Rates of return on the funds invested in some of the publicly owned assets, for example, in ports and rail, do not achieve a market rate of return on the value of assets recorded in their published accounts. This raises questions about the efficiency of investments in these assets and/or the basis of the asset values.
- Significant technological changes are happening in the transport sector internationally. Some parts of the sector in New Zealand are grasping new innovations, but there are impediments to innovation in places.
- Governance arrangements for the publicly owned parts of the sector are below best practice.
- Investment coordination and planning can help to address coordination issues between different parts of the logistics chain. Many inquiry participants consider that governments could improve their contribution to these issues.

Reforms within transport modes

Those who manage freight assets are responsible for delivering productivity improvements. However, their incentives will be influenced by regulatory and institutional frameworks. This report therefore focuses on possible improvements to these frameworks, as they apply to particular parts of the logistics chain and to the freight sector as a whole. The common theme linking the proposed changes is that they would strengthen the incentives for firms to improve their productivity.

The Commission has identified improvements to the regulatory frameworks that affect shipping lines, ports, airlines, airports and road freight.

The competition regime for sea freight

Collaboration agreements between international liner shipping carriers have historically been exempt from the full application of domestic competition (anti-trust) laws. The policy rationale for these exemptions was that practices such as price fixing and revenue pooling were needed to ensure access to reliable liner shipping operations. As such, the public benefits of the agreements were considered so likely to outweigh any anti-competitive detriments that there should be no requirement for carriers to prove that this was indeed the case.

This approach was adopted in New Zealand, which has automatic exemptions from the Commerce Act for all agreements between carriers concerning international shipping, including price-fixing and capacity-limiting agreements. New Zealand provides formal exemptions for international shipping in both the Commerce Act 1986 and the Shipping Act 1987 from the Commerce Act's competition regime. The two exemptions are subtly different, with inconsistent treatment of importing versus exporting. Compared with other approaches, New Zealand's regulatory regime for international shipping is an outlier in that the exemptions apply widely, and largely without the limiting conditions found elsewhere. Moreover, there seems little reason to have two somewhat different exemptions, which create complexity and uncertainty.

The automatic exemptions from the Commerce Act contrast with most other New Zealand industries, where the onus is on the parties to the agreement to convince the Commerce Commission that the public benefits of agreements that would otherwise breach the Commerce Act outweigh any anti-competitive detriments.

Continued developments in international shipping over the past two decades, and in particular the rise of collaboration agreements without price-fixing or capacity-limiting provisions (non-ratemaking agreements), independent carriers, and individual service contracts, have called into question the need to automatically exempt all types of agreements to ensure adequate and reliable services. There now seems to be little evidence that reliable shipping services are so dependent on the ability to have ratemaking agreements that such agreements should be automatically presumed to be in New Zealand's best interest.

Ratemaking agreements – ones involving price-fixing or limiting capacity with the intent of raising prices – have a high risk of anti-competitive detriment. Exemptions for such agreements should be removed and authorisation mechanisms should be relied upon for assessing whether these agreements are in the public interest.

Removing the exemption can be expected to deliver benefits from increased competition, but it is not clear how large these will be. On the one hand, there is evidence that New Zealand shippers pay significantly higher freight prices than their Australian counterparts, and that these differences are not fully explained by higher costs. But in other respects international shipping services to and from New Zealand appear competitive. Moreover, there could be risks if New Zealand moves radically ahead of other countries and, in particular, ahead of Australia, which still has exemptions. Another benefit of removal is insurance against future carrier collusion. Incentives for collusion will likely increase in the future as the international shipping cycle moves into more constrained supply.

In the case of non-ratemaking agreements, there should only be one exemption (in the Shipping Act), extended to apply to inwards shipping, and the remedial regime in the Shipping Act should be strengthened by introducing a registration regime for these agreements.

Coastal shipping

In New Zealand, the Maritime Transport Act 1994 (s.198) allows international operators to compete on coastal routes against domestic operators, providing they do so as part of an international voyage and do not operate in New Zealand beyond a continuous period of 28 days. While some submissions suggested that cabotage (reservation of domestic coastal trade to New Zealand-owned shipping operators) should be reintroduced, the Commission does not support this proposal. International shipping services carry significant volumes of container cargo around the New Zealand coast, much of it at low marginal cost and

prices. They also reposition tens of thousands of empty containers each year. These services are valuable to New Zealand shippers. Reintroducing cabotage would likely increase prices.

Ports

While port charges are not a large part of total freight costs, the potential impact of ports on the overall supply chain is larger than this would suggest. Ports can be a choke point, because delays or poor reliability in them can have cascading impacts on later stages in the supply chain. The Commission reviewed four main ways to improve port performance:

- strengthening governance and/or ownership arrangements;
- more use of facilitative discussions and information sharing to aid investment planning;
- increasing the scope for competitive provision of services within ports; and
- more productive workplace relationships.

Governance and ownership of ports

All commercial ports are majority owned by a council within whose territory the port is located. Four ports are listed on the New Zealand Stock Exchange. All other minority ownership stakes are in ports held by other local authorities or other port companies.

Councils may desire to control ports for a number of reasons, including to:

- balance the financial benefits of owning the port against regional economic development objectives;
- resist control from outside the region, which might include closing an uneconomic port or reducing the scope of its activities;
- balance the financial benefits of owning the port against other amenity values of the port's location and surrounds; and
- limit monopoly pricing.

Difficulties in resolving multiple objectives in publicly owned firms can contribute to problems in areas such as operational efficiency, labour relations and investment planning. To avoid such problems, port companies need a clearly defined purpose, and governance and ownership models that best suit that purpose.

Effective governance of organisations is central to their ability to make value-maximising decisions. The governance arrangements for publicly owned enterprises need to be of high quality because publicly owned enterprises face less discipline from other sources than comparable privately owned enterprises. Publicly owned organisations also, in effect, spend the money of the general public, who are not well placed or sufficiently incentivised to monitor performance of such investments.

There are three areas where the governance framework applying to council-controlled port companies is not currently optimal: lack of clarity of purpose of the companies; failure to properly manage conflicts of interest; and insufficient monitoring and transparency of performance information.

Clarity of purpose

Obligations of council-controlled ports are specified in the Port Companies Act 1988. The legislated purpose of port companies could be clearer.

The principal objective of council-controlled port companies should be changed to: "to be a successful business as profitable and efficient as comparable businesses that are privately owned".

Managing conflicts of interest

Elected representatives have unavoidable conflicts of interest when acting as directors for a council-controlled company – particularly between their responsibilities to the community they represent under the

Local Government Act and their responsibilities to the company under the Companies Act. Similar considerations apply to council staff, since the council is likely to have regulatory functions (eg, under the Resource Management Act) that affect the company.

To manage conflicts of interest, elected representatives and council staff should be precluded from being a director of port companies. This increases the separation between commercial and wider council objectives.

Monitoring

Transparency and reporting are key parts of any governance regime. When other competitive forces are muted, 'benchmark competition' can play an important role. The Commission's economic-value added (EVA) analysis of selected ports found that negative EVAs were common. This raises questions about the ports' use of a scarce resource – capital – and about whether port owners should address this through some combination of better cost control, shifting resources to better uses within the port, or retiring capital for redeployment elsewhere.

EVA figures can provide an overall picture of the economic efficiency with which capital is being invested and used in the freight transport system. In the interests of improved reporting, transparency, and ultimately efficiency, port companies should regularly publish EVA figures, which should be given greater attention by owners and policy makers. To support benchmark competition between port companies, the Ministry of Transport should publish regularly an independent assessment of their comparative financial and productivity performance.

Ownership

There are convincing empirical and theoretical grounds to suggest that increased private capital participation in ports would improve their governance, and offer improved incentives for port efficiency, and the dynamic efficiency of the freight system in general. But port owners should choose this method only after thoroughly considering the issues. Councils should be clear about the objectives they wish to pursue through port ownership. Having decided those objectives, they should choose the minimum level of council ownership that offers the required control rights.

The questions of the boundaries of the organisation and the ownership structure that will best promote performance are interrelated. As the boundaries change, the best ownership structure is likely also to change. It is therefore essential for avoiding conflict and confusion that the business activities that are to be run by these companies are ones for which commercial objectives are both appropriate and explicitly chosen. This may not cover all of the present assets or activities of port companies. Some assets and activities may not be best managed to commercial objectives where non-commercial objectives are significant, and should be governed differently and to different objectives.

Councils should consider landlord port models in which land ownership is separated from terminal operations. This may be an efficient mechanism for maintaining control over port land use while benefiting from the efficiency improvements resulting from increased private involvement in port operations.

One option for public owners seeking to improve governance is to opt out of the relevant public sector governance regime and into the stock exchange regime. A stock market listing offers significant potential governance improvements for larger companies with partial council ownership. These benefits arise from an observable share price, reporting and continuous disclosure rules, and external analysis of management decisions. Council owners of larger port companies should consider listing them on the stock exchange in order to obtain the governance benefits from listing.

Improving workplace productivity at ports

Seaports have been transformed over the past fifty years in their operational functions and in the scale and sophistication of the equipment used to manage their core tasks. Although these changes have increased productivity, the Commission received many submissions that work practices have not kept pace with the changing nature of the tasks carried out on the waterfront, and that this is impeding further productivity improvements. Ports have long been associated with strained union/ management relationships, with allied stress and costs for workers and employers alike, as well as those reliant on port services.

Work practices and management/worker relationships at some New Zealand ports are far from conducive to high-productivity workplaces. Inefficient work practices represent a forgone opportunity to create value and distribute it in a manner that benefits all parties. Poor relationships between management, workers and unions are a major obstacle to capturing lost value. These relationships are more akin to the traditional adversarial relationships than the 'productive employment relationships' envisioned in the purpose statement of the Employment Relations Act (ERA). A further complication is that port managers are often reluctant to push for changes in collective agreements because they wish to avoid the potential cost of industrial and legal action. This tends to entrench the status quo arrangements.

While poor relationships exist at some ports, a port-specific policy solution is not necessary.

- Other industries have similar characteristics to ports yet manage to have cooperative and effective workplaces – this suggests that relationships, rather than different policies, are at the heart of any industrial relations problems at ports.
- Poor workplace relationships are not systemic throughout all New Zealand ports.
- Strike action or lockouts occur relatively infrequently at New Zealand ports (notwithstanding recent events at the Ports of Auckland).
- There is no evidence to suggest that the processes for mediation and negotiation within the ERA are made less effective by the characteristics of ports.
- The existing competition framework, in conjunction with the ERA, provides means for parties that feel aggrieved by any anti-competitive behaviour associated with the provision of port labour to seek solutions.

Nevertheless, some stakeholders have suggested that reforms to the ERA would reduce the likelihood of protracted negotiations. These include:

- removing, or limiting, the requirement on parties to conclude collective bargaining, in order to reduce the incentive on both parties to hold out for a 'one-sided' outcome;
- reducing the period a collective agreement continues in force after its expiry date (currently up to 12 months); and
- introducing compulsory secret ballots prior to strike action.

These reforms would apply to the whole economy, and are beyond the scope of this inquiry. However, any reform which disproportionately favours the bargaining strength of one party at the expense of the other would be counter-productive.

Improvements to the governance of both ports and unions could play an important role in creating more productive workplace relationships.

For ports, this means ensuring that boards and their management teams have the skills and mandate to engage with workers and their representatives in a way that leads to productive, socially responsible and sustainable port operations. For unions, it means implementing a 'hybrid model' of unionism whereby unions play a role in overcoming the barriers to achieving high-productivity workplaces, while also advancing the wages and conditions of their members.

The development of positive workplace relationships will require both port managers and unions to place less emphasis on areas of conflict and greater emphasis on opportunities for mutual gain.

A common and correct understanding of employment law concepts and processes is an important element in the development of workplace relationships. The report discusses three areas where improved understanding is needed:

- the role of the courts in upholding particular work practices;

- restrictions on communications between employers and workers during the collective bargaining process; and
- the difference between 'casualisation' and 'contracting out'.

The competition regime for air freight

Air freight is essentially a by-product of the much larger provision of air passenger services. Competition in international air services is regulated in New Zealand by both the Commerce Act 1986 and the Civil Aviation Act 1990. Certain international air services trade practices can be exempted from the Commerce Act's prohibitions on restrictive trade practices if they meet criteria in the Civil Aviation Act and are authorised by the Minister of Transport.

The international air services market and the international regulatory framework for air services have changed significantly since the current competition regime was established. Competition regimes in other countries have evolved in response to these market and regulatory developments, but New Zealand's competition regime for international air services has remained the same.

The most important criterion for assessing options for improving the competition regime is the need to ensure that the process for authorising any trade practices is based on a comprehensive analysis of their costs and benefits. This will maximise the likelihood that efficiency-enhancing trade practices are authorised, and minimise the chance that harmful forms of coordination are authorised.

One way to ensure a comprehensive analytical process is to remove the specific industry regime in Part 9 of the Civil Aviation Act and rely solely on the Commerce Act regime to assess authorisation proposals. While this would remove the requirement in the Civil Aviation Act that the decision-maker considers New Zealand's international obligations and international comity, civil aviation policy considerations do not appear to be essential to the current competition regime for air services:

- The Civil Aviation Act authorisation regime is optional. Businesses seeking an exemption from Commerce Act prohibitions can bypass the Civil Aviation Act and seek a Commerce Act authorisation directly from the Commerce Commission.
- The Australian competition regime operates without specific legislative requirements for considering civil aviation policy objectives.
- Other highly regulated markets in New Zealand are still subject to the Commerce Act's prohibitions.

The Commerce Commission has advised that it could take into account international civil aviation obligations in a Commerce Act authorisation process, if these obligations were described in a submission. The Commerce Commission would assess the net national benefits of fulfilling these obligations to varying extents. However, the focus on civil aviation policy under a Commerce Act regime would not be as strong as under the current regime, where consideration of international obligations and comity is expressly required by the Civil Aviation Act.

On balance, the Commission considers that a Commerce Act-only regime would regulate competition in international air freight services more effectively than the Civil Aviation Act regime. However, the Government should review the passenger-specific costs and benefits of retaining the current competition regime or adopting a Commerce Act-only regime before making any changes.

If the Government retains the current competition regime, it should make changes to Part 9 of the Civil Aviation Act to improve the assessment of the benefits and costs of proposals to authorise certain trade practices.

Airports

The relationship between airlines and airports appears to be strained, with airlines claiming that airports use their market power as geographic monopolies to overcharge for services. Airports disputed this view.

The three major airports were in 2008 made subject to 'information disclosure' regulation under s.56–56A of the Commerce Act. They are required to disclose a significant quantity of tightly specified information about their operations, including some details on international freight activities. Pricing disclosures under this regime were required by 30 September 2011. Annual performance disclosures for the 2011 financial year are required during the first half of 2012.

A Commerce Commission review of the effectiveness of the information-disclosure regime will be triggered by the first price change for specified airport services during or after 2012. This is likely to be a sufficient mechanism to review whether major airports are exerting market power over freight services providers.

The analysis and recommendations about the governance and ownership of ports is also generally applicable to council-controlled airports.

Rail freight

The New Zealand Railways Corporation (trading as KiwiRail) is a state-owned enterprise. Governance and other arrangements are specified in both the State-Owned Enterprises Act 1986 and the New Zealand Railways Corporation Act 1981, which is a potential source of ambiguity and inefficiency. It would be preferable if KiwiRail's governance arrangements were specified only in the State-Owned Enterprises Act.

KiwiRail is currently classified as a 'multiple objective company' whose financial expectations are moderated by public good delivery requirements. However, there is little transparency about exactly what public goods are being delivered and at what cost to the taxpayer. The State-Owned Enterprises Act contains provisions for SOEs to receive direct payments for non-commercial activities (s.7), and it would be preferable if these provisions were used to identify expectations for delivery of public goods by KiwiRail and the costs incurred in their provision.

The Government should improve the transparency of decision making around rail infrastructure projects, including the publication of cost-benefit analyses, comparable to the ones produced for major road projects. Decisions on rail also need to be forward looking. The focus should not be on evaluating whether past investment should have occurred, but on the optimal strategy for the future.

Road freight

High-productivity motor vehicles (HPMV), which can raise productivity through longer and/or heavier loads, are required to have a permit from road-controlling authorities (mostly local councils for local roads, and the New Zealand Transport Agency (NZTA) for the state highway network).

The experience with implementing these permits has highlighted some problems, including coordination problems between different agencies, and incentive alignment problems. An obstacle to the successful introduction of HPMVs is the reluctance of some councils to issue permits and fund infrastructure upgrades (mainly bridge capacity).

The Government should examine ways to share the increased road user charge revenue from high productivity motor vehicles with councils, so as to encourage the local road upgrades required to support these vehicles.

Reforms that apply across the freight sector

The Commission has also considered ways to improve government interventions that impact across the freight sector: customs, security and biosecurity; subsidisation of domestic freight transport; investment planning and coordination; and managing the external effects of freight transport.

Customs, security and biosecurity

Customs, security and biosecurity activities provide many benefits for international trade but also add to the costs of international freight – both directly through the payment of border fees and charges, and indirectly through the cost of complying with border regulations and standards. The agencies that supply these services are government monopolies. While their fees and charges compare favourably with those imposed

on exporters and importers in Australia and other OECD countries, opportunities for productivity improvement should still be pursued.

One way to reduce costs would be for New Zealand to relax its border controls and accept more risks. However, on the basis of submissions to the inquiry, the current level of risk tolerance reflected in the activities of New Zealand's border agencies appears to be in line with the expectations and preferences of stakeholders. As such, the level of border risk management is not acting as a barrier to the efficiency of the international freight logistics chain.

Given this level of risk tolerance, the question is whether the agencies could achieve that level of risk in a less costly way. They use a risk-based resource allocation model to help them target expenditure and effort where it adds most value. This can reduce the regulatory burden on companies with a good compliance record (low-risk companies) and increase the burden on those that consistently fail to comply (high-risk companies). Implementing this approach requires timely and accurate data and intelligence in order to correctly assess emerging risks; consistency and transparency in the approaches and assumptions used to assess the consequences of potential threats; and outcome-based performance measures. Border agencies should continue to enhance their performance measures and performance review procedures in order to improve the transparency of agencies' performance and increase management accountability.

The overall efficiency of border services is heavily influenced by the technologies and management practices that are used. The Joint Border Management System (JBMS), currently being developed by the Ministry of Agriculture and Forestry (MAF) and the New Zealand Customs Service (NZCS), will reduce duplication of paperwork and simplifying border procedures. While the number of days taken to complete New Zealand's export and import requirements compares well with other countries, the JBMS should lead to further improvement. The second phase of the JBMS project will address back office coordination issues between MAF and NZCS, but is several years away. In the meantime, low cost measures to improve coordination will be explored through the Future Directions for the Border Sector initiative. This initiative needs to develop transparent and quantifiable performance measures for border cooperation. These measures should form the basis of the planned six-monthly reports to Cabinet. Active oversight of the Border Sector Governance Group by border sector Ministers should continue beyond the completion of the Future Directions programme of work.

Finally, the current Customs and Excise Act 1996 was developed in the early 1990s. Since then, the trade environment, technology and border risks have changed significantly. Given the rapid pace of development in information management and the growing need for accurate and timely communication with overseas agencies, it is important that the adoption of new technologies within border agencies is not unwittingly held back by legislation. The Customs and Excise Act should be added to the Government's legislative review agenda, to assess whether the legislation is fit-for-purpose in light of changes to border management practices and developments in technology since the 1990s.

Subsidisation of domestic freight transport modes

Road, rail and coastal shipping largely serve separate markets. Road is best suited to time-sensitive and short-haul freight. Rail is best suited to bulky, heavy products and/or long-distance freight. A high proportion of rail tonnage is to and from industrial plants, mines and ports. Coastal shipping is best suited to bulky, heavy, long-distance, non time-sensitive freight. It is not suited to short-distance freight because of handling costs and the inaccessibility of inland routes. The low frequency of services combined with the need for multiple handling means that in general it is the slowest form of transport.

There is some contestability, however, between transport modes. A small proportion of the road freight task is contestable by rail, and one estimate is that 8% of the overall freight task in tonnage is contestable by coastal shipping. For those products and routes on which transport is contestable by different modes, it is desirable that price signals encourage shippers to choose the mode that imposes the least costs on society (for the required service quality). To the extent that subsidies distort these choices, they impede this economic efficiency goal. Explicit subsidies involve payments to providers, price discounts to consumers, or a government-owned entity deliberately accepting a low return on capital provided. Implicit subsidies occur

when externalities are not priced. Examples may include greenhouse gas emissions, water pollution and other forms of air pollution.

Many inquiry participants commented on the existence of subsidies to one or more domestic transport modes. Two commonly made arguments are:

- Road freight is subsidised as, under the pay-as-you-go (PAYGO) methodology, user charges are insufficient to generate a rate of return on past road infrastructure investment.
- Rail is subsidised by the government as it does not achieve a commercial rate of return on the capital invested.

Determining the level and direction of subsidies across transport modes is complex and difficult. The Commission has not examined domestic transport subsidies in detail and confines itself to a few observations in order to aid further analysis and discussion.

The Commission's view is that the PAYGO methodology does not subsidise road use, as capital spending is recovered in the period in which it occurs. While submissions suggested that rail is subsidised by the government as it does not achieve an acceptable rate of return on the capital invested, the Commission considers that decisions for rail need to be forward looking and made transparently.

Investment planning and coordination

Efficient levels of investment are a key to achieving dynamic efficiency in freight industries; however, the nature of investment (large and 'lumpy'), demand (uncertain) and the supply chain (multiple interdependent decision makers) creates risks of under- and over-investment. While coordination might reduce these risks, 'coordination challenges' of various types can lead to organisations making individually sensible decisions with collectively sub-optimal outcomes.

Six particular issues raised by participants formed the basis for case studies in this report. Participants indicated that resolution of these issues would require the coordination of different organisations within or between different parts of the freight supply chain or, in one case, different levels of government. The six issues are:

- coordinating road and rail investments;
- whether there are too many ports;
- whether port mergers would improve coordination;
- whether port expansion is required in the upper North Island;
- how to plan for larger container vessels; and
- how to coordinate local and central government interactions with the transport sector.

A significant number of inquiry participants consider that 'strategic planning' or 'government leadership' is needed to resolve issues such as these. However, strategic planning (in its various forms) and government leadership have their own costs and risks, and can lead to governments assuming the normal commercial risk of other parties.

Government service providers (eg, road infrastructure providers), particularly those receiving poor price signals, face a difficult problem in collecting reliable market research on which to base their investment decisions. 'Facilitated discussions' can assist with this important task, and also promote relationship building and information sharing, leading to improved coordination.

Directive planning, in the sense of a centralised plan imposed on independent parties, has large associated costs due to the incentives it creates for non-productive behaviour, including rent-seeking, tactical misrepresentation and strategic hold-up. Experience has shown directive planning should be avoided in favour of lower-cost and lower-risk mechanisms. In an environment with considerable uncertainty and risk,

there is value in a diversity of approaches. Centralised planning tends to lock in a single approach – with high costs should the future not turn out as expected.

The analysis of the six case studies supports the view that there are significant coordination challenges for those making investment decisions in the freight transport sector; that there are different options for addressing them; and that participants in the sector have incentives to develop these options. Governments can improve decision-making by facilitating information sharing and discussion about different options, while ensuring that there is adequate coordination between different levels of government and between their own investment decisions when these relate to different transport modes.

Collecting freight information

Information about issues such as freight movements, infrastructure-investment plans and future demand can help freight participants make better individual and joint decisions. There are various freight information-gathering initiatives, including the 2008 National Freight Demand Study, the new Freight Information Gathering System (FIGS), and the Transport Monitoring Indicator Framework.

The Government should develop a proposal to extend the Freight Information Gathering System and subject the proposal to a regulatory impact analysis 'efficiency test' to determine whether it would deliver net benefits beyond existing information collection and dissemination.

External effects of freight transport

The international freight logistics chain can generate external costs outside the business producing them – for example, through its impact on the environment. These costs are largely managed through government regulations, which (appropriately) push the external costs (in part or full) onto the companies that produce them and the consumers of their products. The government's management of external costs can influence the efficiency with which factors of production are allocated within the economy.

In considering the regulation of external costs, the inquiry has focused on issues raised by submitters. These are the impacts of:

- the Resource Management Act 1991 (RMA) on investment in transport infrastructure;
- the Climate Change Response Act 2002; and
- the European emissions-trading system (the EU ETS) on New Zealand exports to and imports from Europe.

Improving the Resource Management Act

Investment in transport infrastructure can impact New Zealand's natural and physical resources. The principal piece of legislation for managing these impacts is the Resource Management Act, the purpose of which is to "promote the sustainable management of natural and physical resources" (s.5 of the Act). This purpose is primarily achieved through district and regional plans that set out activities permitted within a given area. The RMA also includes a process by which an individual or business can apply for a 'resource consent' to undertake an activity that requires council approval.

Responsibility for implementing the Act is largely delegated to local authorities, which are expected to have the largest amount of relevant information and to be most affected by decisions. The role of central government under the Act is to provide policy guidance on matters of national significance and to oversee the implementation of its provisions.

Submissions highlighting the need for a more balanced approach to weighing up local and national implications of transport infrastructure projects raised concerns about:

- the RMA's purpose statement being unclear;
- the absence of recognition of the importance of transport infrastructure within the RMA;
- the need for additional central government guidance in planning for transport infrastructure; and

- the omission of seaports from the list of 'network utility' operators.

The Commission can see four ways to improve how the RMA provides for the analysis of major infrastructure projects, such as those in the transport sector.

- There is ambiguity about whether the purpose of the Act allows for 'balancing' socio-economic aspirations with environmental outcomes, or whether s.5 (a), (b) and (c) represent an 'environmental bottom line' that must be secured regardless of the social or economic cost. In light of this ambiguity, there is a case for reviewing s.5, to clarify consideration of net social benefits and costs (including those accruing at a national level).
- The Government might, however, want to consider the case for such a review in a wider context than transport alone. If the Government decides not to review the purpose statement of the RMA, the Commission supports the Infrastructure Technical Advisory Group's recommendation that s.6 of the RMA should refer to the development and operation of regionally and nationally significant infrastructure. This would mean local authorities would need to 'recognise and provide for' transport infrastructure during the planning process and when considering applications for resource consent.
- The Minister for the Environment should develop a national policy statement (NPS) for transport infrastructure, which would signal central government recognition of the importance of New Zealand's transport infrastructure.
- An NPS for transport infrastructure will only be effective if regional and local policies and plans can be changed, to implement it in a timely way. Long delays can be associated with producing such plans and policies. The Commission recommends a review of ways to reduce the time it takes to produce fully operational local government plans.

Recent reforms to the RMA are likely to reduce concerns about the rigidity, complexity and cost of the consent approvals process.

Climate change

The Climate Change Response Act (as amended) has introduced an emissions-trading scheme to internalise the costs of greenhouse gases emitted by freight transport operators within New Zealand. The scheme will directly impact the domestic parts of the international freight supply chain and is likely to be effective in doing so. International legs will continue to be exempt pending the development of effective international arrangements.

The European Union emissions trading system

From the start of 2012, emissions from all domestic and international flights that arrive at or depart from an airport in the European Union will be covered by the EU emissions-trading system (ETS) and therefore subject to an ETS cost. This will affect around 10–15% of New Zealand air freight exports (by value) and New Zealand exporters may face relatively higher cost increases than their international competitors (who are in general located closer to European markets).

At least some of the ETS costs are likely to be passed through to freight customers. Information gathered during the inquiry indicated the EU ETS will increase air freight rates from New Zealand to the EU by around \$60–70 per tonne. This constitutes an increase of approximately 1.3% in the price of air freight to Germany and around 1.6% in the price to the United Kingdom. New Zealand exporters have limited ability to pass these costs on.

Concluding observations

The international transport freight sector has a significant impact on the costs faced in the first instance by New Zealand importers and exporters, many of which are ultimately passed through to industry and consumers. Having an efficient transport sector will help New Zealand's engagement in the international economy and its capacity to take advantage of the benefits that engagement can bring.

Freight costs have fallen significantly over the last 20 years. This fall in costs is impressive considering price rises in inputs such as fuel and labour over this period. The freight system has taken the steadily rising freight volumes in its stride. It has shown considerable resilience in the face of a number of recent unexpected shocks to its capability – the series of major earthquakes in Christchurch, the grounding of the container vessel *Rena* off the coast of Tauranga, and an extended industrial dispute in Auckland. These are indications of a system that has served New Zealand well; however, there is room for improvement.

This inquiry has identified considerable scope for productivity gains in the sector. While it is transport businesses that will drive productivity improvements, the inquiry has focused on ways that central and local governments, which are closely involved through ownership and regulation in particular, can improve their involvement in the sector and improve its capacity and capability to improve productivity. The Commission has developed 26 recommendations covering a wide range of topics, but in its view the top five opportunities for improvement lie in:

- lifting the quality of infrastructure planning and coordination;
- improving governance of ports and airports;
- making competition regimes more pro-competitive;
- building more productive workplaces at ports; and
- developing a richer information infrastructure.

The international freight transport sector faces considerable challenges, and how it deals with them will make a significant difference to New Zealand's future prosperity. The proposals in this report will enhance the capacity of the sector to meet these challenges.

1 The inquiry and why it is important

In March 2011 the Government asked the Productivity Commission to undertake an inquiry into New Zealand's international freight transport services. This introductory chapter describes the inquiry's Terms of Reference, and briefly describes the steps in the inquiry process – an issues paper, submissions, a draft report, further consultation, and then this final report. It explains the importance of the inquiry for New Zealand's economic future.

Key points

- The Government asked the Commission to undertake an inquiry into the accessibility and efficiency of international freight transport services available to New Zealand firms, paying particular attention to costs, efficiency, productivity and the effectiveness of current regulatory regimes.
- The Commission has aimed to present compelling, evidence-based findings and make practical recommendations in order to improve the international freight transport system, and to communicate these well.
- In July 2011 the Commission released an Issues Paper, following which it received over 50 submissions and met with many organisations and individuals. It published a draft report in January 2012 on which it again consulted and received submissions. This final report to the Government has 75 findings and 26 recommendations about how to improve New Zealand's international freight transport services.
- International freight transport services are important because they provide essential connections between New Zealand and the international economy. Particularly for a small, distant country such as New Zealand these services enable international trade, lift productivity potential, and enhance wellbeing.
- New Zealand's trade growth has lagged its OECD peers over the last 20 years. New Zealand firms have largely failed to participate in the expansion of international intra-industry trade associated with the growth of complex supply chains and segmented, specialised production.
- Its small domestic market and distance from major foreign markets pose major challenges to New Zealand's ability to participate effectively in the global economy. New Zealand's economic distance from key markets raises both direct transport costs and the costs of longer transit times.
- Taking effective steps to improve New Zealand's international freight system will help to mitigate its geographical challenges and raise its ability to participate effectively in the global economy. In short, a more efficient and effective freight system can raise the prosperity of New Zealand's businesses and workers and enhance consumers' purchasing power.

1.1 What has the Commission been asked to do?

Terms of reference

The Government has asked the Productivity Commission to undertake an inquiry into international freight transport services. As set out in the terms of reference,¹ the key high-level questions for the inquiry are:

¹ See page iv for the full terms of reference.

- What are the factors influencing the accessibility and efficiency of international freight transport services available to New Zealand firms?
- Are there opportunities for changes in New Zealand's infrastructure and regulatory regimes that could increase the accessibility and efficiency of international freight transport services for New Zealand firms?

In answering these questions the Commission has been asked to pay particular attention to:

- the effects of New Zealand's distance from overseas markets and reliance on overseas providers of international freight transport services;
- the costs, efficiency, productivity level and growth of all components of New Zealand's international freight services supply chain, with international comparisons; and
- the effectiveness of current regulatory regimes (including those in the Civil Aviation Act 1990 and Shipping Act 1987) and the potential costs and benefits of alternative regulatory arrangements, with international comparisons.

1.2 What approach has the Commission followed?

The Commission's general approach in its inquiries is to investigate opportunities for policy changes that can improve productivity in the New Zealand economy and, as a result, the wellbeing of New Zealanders. The process it follows includes consultation with a wide range of stakeholders, learning from them and from the experience of other countries. It aims to sift evidence and undertake rigorous analysis in order to generate insightful findings and practical recommendations. It also places high importance on communicating these clearly and effectively.

The Commission has followed a number of distinct steps in the process of reaching its findings and recommendations and publishing this report.

Issues paper

The Commission released an Issues Paper (Productivity Commission, 2011) in July 2011 to set the scene for the inquiry and to invite individuals and groups to make submissions on a wide range of specific questions.

The Commission received over 50 submissions on the Issues Paper. It met with many of the submitting organisations and a number of other participants in the international freight transport sector to gain further understanding and information. (See Appendix A for lists of submitters and meetings.)

Draft and final reports

Drawing on the ideas and information provided in submissions and engagement meetings, and on its own research and analysis, the Commission released its draft report in January 2012. Around fifty organisations then took the opportunity to make submissions on the Commission's draft report (see Appendix A).

The Commission has drawn on these submissions in developing its final set of findings and recommendations. It also gathered further data and undertook further analysis. After assessing each finding and recommendation in the draft report, the Commission has changed some and retained others.

The Commission would like to acknowledge and thank all the individuals and organisations who took time to make submissions, provide information, and meet with the Commissioners and inquiry staff.

Structure of the report

Even in a relatively small economy such as New Zealand's, international freight transport is a large and complex set of activities and services. To do justice to this complexity, and to meet the inquiry's Terms of Reference, the Commission has structured this report into a number of broad parts, as follows:

1. **Overview and introduction**, including the importance of international freight to New Zealand and a framework for analysing the key issues of efficiency and wellbeing (Overview, Chapters 1 and 2).

2. **Performance and costs of New Zealand's international freight transport services** with comparisons to other countries (Chapters 3 and 4).
3. **Impediments to efficiency-promoting competition and coordination** along freight supply chains to and from New Zealand (Chapters 5-7).
4. **Impediments to efficient and effective investment and innovation** – assessing planning, governance and ownership arrangements across central government, local government and the private sector in relation to international freight services (Chapters 8-10).
5. **Effectiveness of current regulatory regimes** for New Zealand's international freight services (Chapters 11-13).

Figure 1.1 is a schematic picture of international freight transport services where the components (depicted by circles) are modes of transport or points of interchange between modes. An overlap between two circles indicates that some competition exists between those components. For example, rail sometimes competes with road and coastal-shipping transport; but at other times it connects with them as part of an overall logistics chain.

The circles are coloured to reflect components with natural monopoly characteristics (light orange); those with the characteristics of competitive industries (green); and those that have the potential to be competitive (light green), but where competition may be limited.

Freight forwarders interact with all other components and are shown spanning them. Air and sea are alternative international freight modes. Thus, for some cargoes, ports compete with airports and international sea freight services compete with air freight services.

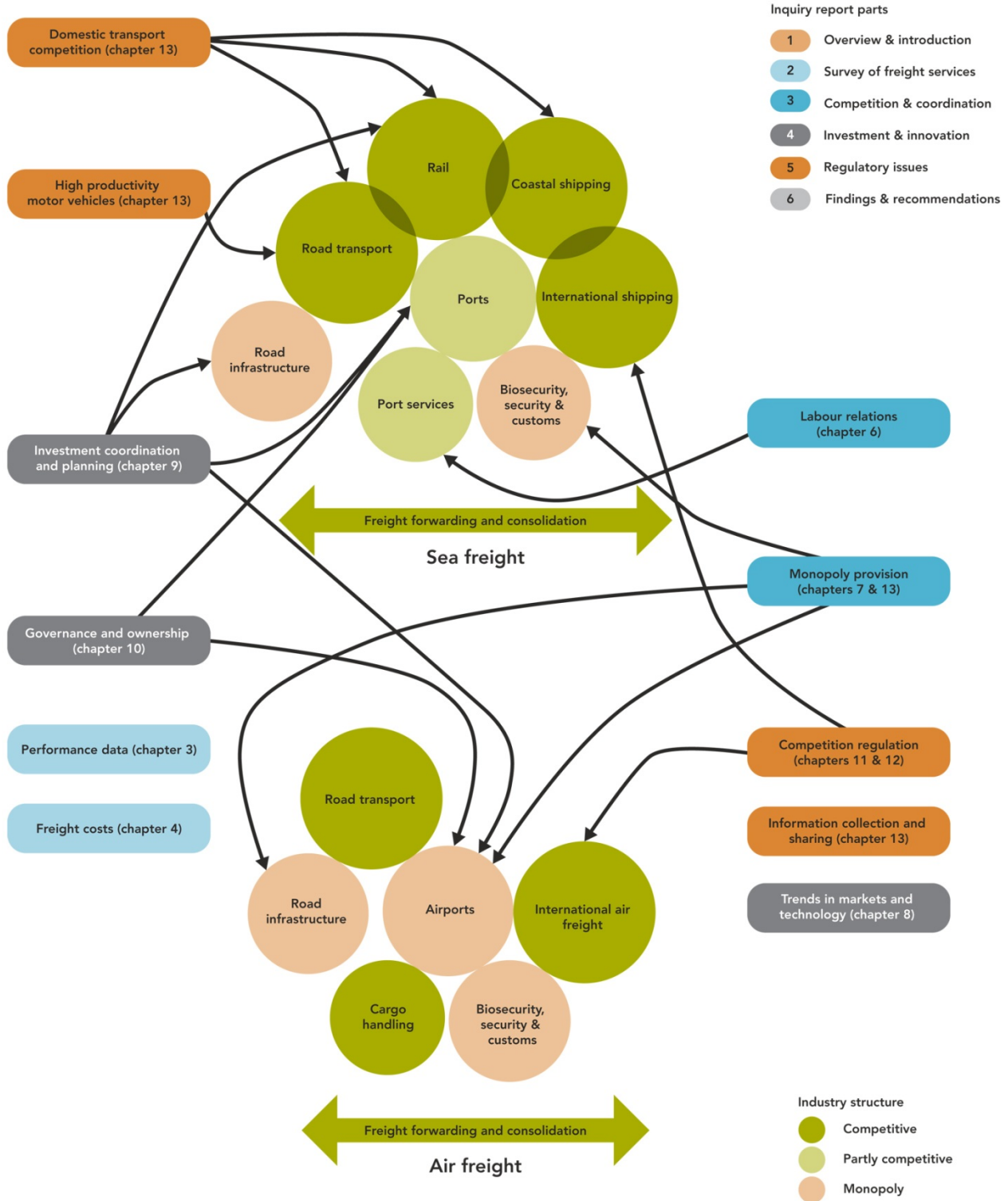
A number of key issues point to ways to improve the performance of international freight services for New Zealand. These issues and where they lie in the overall system are shown in the rounded rectangles down each side of Figure 1.1, and the arrows indicate where they affect the overall system.

Other international freight work and processes

The Commission is aware of other recent work on international economic connections (Secretary of the Treasury, 2011) and on freight infrastructure and transport in particular. Key documents relevant to this inquiry include the National Infrastructure Plan, the Government's Policy Statement on Land Transport Funding 2012, the KiwiRail Turnaround Plan, the Ministry of Transport's recent report 'Connecting New Zealand', and the Zealand Transport Agency's work on the Upper North Island Freight Plan (Ministry of Transport, 2011b). In addition a range of regional plans and strategies are relevant, such as the recently released freight logistics strategy for the Bay of Plenty (Environment Bay of Plenty, 2011).

Two significant events have occurred during the course of this inquiry: the 5 October 2011 grounding of the container ship *Rena* on Astrolabe Reef off the coast of Tauranga, and the protracted industrial dispute between Ports of Auckland Ltd and the Maritime Union of New Zealand. This inquiry examines a number of issues relevant to these events, for example in Chapter 6 (improving workplace productivity) and section 13.4 (external effects of freight transport). However, the Commission does not comment directly on them. Partly this is because these events are subject to other processes or investigations. For example, the investigation of the *Rena* grounding by Maritime New Zealand may result in changes to improve safety at sea. The Commission's role is to focus on principle-based policy changes that will improve future outcomes regardless of specific events, while also recognising that such events are sometimes the trigger for desirable policy changes.

Figure 1.1 International freight transport system components and issues



Notes:

1. The components are shown in circles, and the issues are shown in the rounded rectangles, with chapter references and the colour indicating the part of the inquiry report.

1.3 The importance of international freight transport services

Trade and freight services are closely connected

International freight transport services provide essential connections between New Zealand and the international economy. They allow New Zealand firms access not only to export markets but also to the imported raw materials, partly processed inputs, and equipment necessary for domestic production. If

international freight costs can be reduced, and quality and reliability improved, then trade will be enhanced, the economy can be more productive, and New Zealanders' wellbeing enhanced.

While the rationale for trade is widely known, it is worth setting out its importance and key features. Trade:

- enables specialisation, which can improve productivity through concentrating on a narrower range of activities, and economies of scale (large upfront or fixed costs can be distributed over a larger volume of production);
- benefits a country when economies of specialisation and scale occur in other countries because it can import goods and services from them at lower prices and/or higher quality;
- allows access to resources and products that would otherwise be unavailable locally;
- expands the range of technologies available to local firms and consumers; and
- promotes productivity growth because competition with foreign firms spurs local firms to be more efficient and innovative.

These features are particularly relevant for a small and distant island nation such as New Zealand.

New Zealand exporters will only be successful if they have access to required inputs, including imported goods, and can compete on either price or quality. That is, the exporters need to be either:

- price competitive – the local cost of the goods exported plus trade costs are lower or equal in the destination market to the similarly calculated costs of goods from competing sources; or
- quality competitive – the quality of their goods is sufficiently superior to outweigh any price disadvantage.

Trade costs have a direct impact on the profitability of exporting industries, and if too high they may preclude a business from exporting at all. Where imported goods (eg, farm machinery) are used in the production of goods for export, higher trade costs hit exporters twice by making inputs more expensive and outputs less profitable.

Trade costs include the direct costs of freight, but are wider than that. Examples of additional costs include direct charges and compliance costs from customs and biosecurity, tariffs, and the financing costs of goods unavailable for sale or use while in transit. One of the tasks of this inquiry is to identify all significant sources of trade costs (see Chapter 4).

From the perspective of an importer or exporter, the key issue is the cost of the total supply chain, rather than simply freight costs. 'Logistics' is the process of efficiently moving goods from their point of production to their point of consumption in order to meet customer requirements, which typically include the quantity and quality of goods as well as the time and place of delivery. Transport is only one component of this logistics equation. Logistics management aims to meet customer requirements at minimum cost.

To the extent that the overall supply chain includes a New Zealand transport leg, the costs and other features of domestic transport are also relevant to this inquiry.²

The logistics requirements of New Zealand firms can be complex (see the example of Zespri in Box 1.1). Paying a higher price for a more sophisticated logistics service is justified if the extra value from the customer's perspective outweighs the increment in price.

² "To reduce costs for importers and exporters we need to be constantly searching for ways to achieve efficiencies across and between transport modes. It is essential that our air and sea ports are well-connected to our road and rail networks." Ministry of Transport, sub. 46, p. 1.

F1.1

What matters for many New Zealand businesses is access to a menu of logistics services, from which they can choose the combination of price, quality, frequency and timeliness that best meets their requirements.

Box 1.1 Case study of a large exporter: Zespri's international logistics chain

Around 2700 growers supply kiwifruit to Zespri, which has exclusive rights to export New Zealand-grown green kiwifruit to the world (excluding Australia), and exclusive rights to Zespri Gold kiwifruit. Zespri ships about 50% of its exports to Europe, with most of the rest going into Asia.

Zespri spends around \$120 million annually on international freight transport services to export around 400,000 tonnes of kiwifruit a year. Around 80% of the fruit is grown within two hours' drive of the Port of Tauranga, with most of the remainder grown in the Northland, Gisborne and Nelson regions. Most of the regionally grown fruit is shipped out of the local port directly onto chartered refrigerated ships. Fruit from the Nelson area is also loaded into containers and transported by coastal shipping to the Port of Tauranga. Road transport is used to deliver fruit to packhouses/coolstores, and from there to ports.

A large percentage of the fruit is exported using 'reefer' vessels (refrigerated ships) – approximately 64 voyages each year. These are loaded with kiwifruit pallets, though some squash is also carried at either end of the season. The ships are configured so that ripening gas can be piped to the fruit at the appropriate point in the journey so that the fruit arrives ripened and ready for market.

By using chartered vessels, Zespri retains control over its logistics chain, including transit times. It can choose to have the vessels 'slow steam' in order to reduce fuel costs, or travel faster in order to ensure customer demand can be fulfilled.

These ships are 'voyage chartered' by Zespri, making it someone else's responsibility to organise a backload. On the journey to New Zealand some of these ships carry fruit from South East Asia such as pineapples or bananas.

Zespri has contracted for capacity at coolstore terminals on the wharves at Tauranga, and also in Europe and Japan where it can store around three weeks' supply of kiwifruit.

To serve smaller markets, Zespri also exports around 8000 40-foot refrigerated containers per annum using scheduled container line services. At the start of the season Zespri also uses air freight to pre-fill its supply line and put its product into supermarkets before its competitors.

Zespri has been exporting for around 20 years. Exports have doubled over the last 10 years.

Zespri spends around \$90 million annually on marketing in overseas markets, focusing on quality, health and nutrition. Its reputation for a high-quality product, backed by an efficient supply chain, enables it to command a premium over competitors (mainly Chile). Total annual kiwifruit sales are around \$1.5 billion.

Source: Interview with Sally Gardiner and Mike Knowles, Zespri, 21 September 2011; Zespri website.

New Zealand's trade, economic geography and comparative advantage

New Zealand's economy has a small home market and unusually long distances³ to other markets. Market size reflects both the size of the home market and the distance to foreign markets, and has a powerful influence on economic development. New Zealand therefore faces difficult challenges from its geography

³ New Zealand is the most remote advanced country in the world in terms of average distance from economic activity (Ewing & Battersby, 2005).

even though there have been some positive developments, such as the rapid advance in communications technologies and the increasing demand for its exports as a result of strong economic growth in Asia.

As set out below, good transport links are a vital offset to geographical isolation. They lift New Zealand's ability not only to exploit its comparative advantage in temperate agriculture and other products, but also to be more closely integrated with the rest of the world economy. It is very difficult to imagine New Zealand benefiting from economies of scale if it does not possess efficient international freight supply chains.

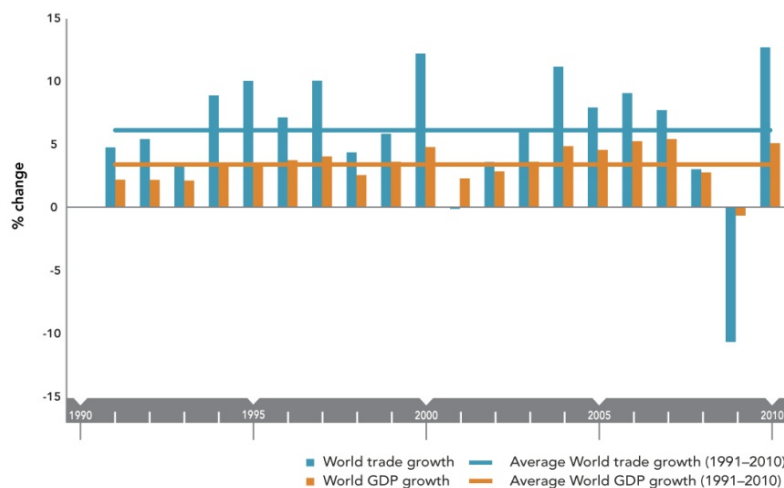
New Zealand's trade growth has lagged its OECD peers

Throughout its history, the role of trade has been crucial to understanding New Zealand's economic performance. New Zealand has tended to experience strong economic growth when its export sector has performed well.

The role of freight efficiency in determining New Zealand's export success has long been established. The development of refrigerated shipping in the 1880s that allowed New Zealand farmers to export meat and dairy products to Europe instead of being limited to subsistence farming has been described as "the most important innovation in New Zealand's history" (Hawke, 2011).

Global trade has grown rapidly over the past 20 years, averaging 6.1% per year real growth since 1991, compared to 3.4% per year for global GDP growth (Figure 1.2).

Figure 1.2 Growth in world trade, real annual change: 1991-2010



Source: IMF

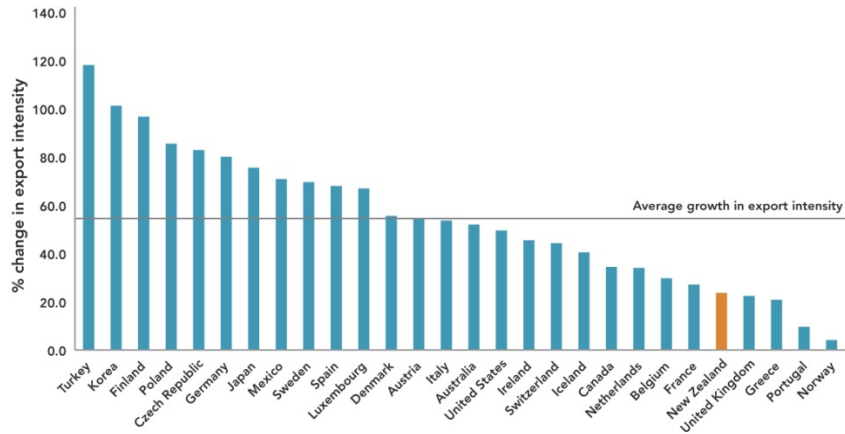
The global economy is therefore becoming more trade-oriented. This can be seen in the increasing export intensity (measured by the share of exports in GDP) of all of the OECD countries over this period (Figure 1.3). However, New Zealand's growth in export intensity has been at the lower end of the OECD range – only 23% over the 20 years compared with 52% for the average country.⁴

F1.2

Despite the global economy becoming more trade-oriented over the last 20 years, the growth in New Zealand's export intensity has lagged well behind that of most of its OECD peers.

⁴ The other countries sharing low growth in export intensity appear either to have considerably higher income per capita than New Zealand (eg, Norway, Belgium, France and the UK) or be poor performers (Greece and Portugal).

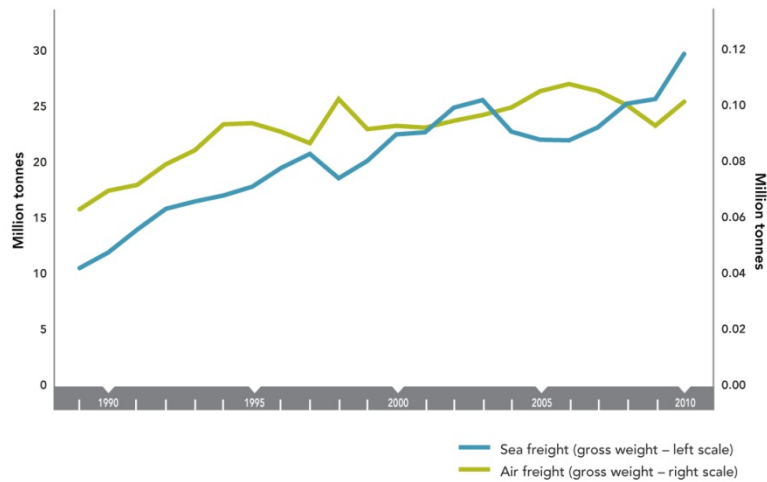
Figure 1.3 OECD growth in export intensity: 1991-2011



Source: OECD

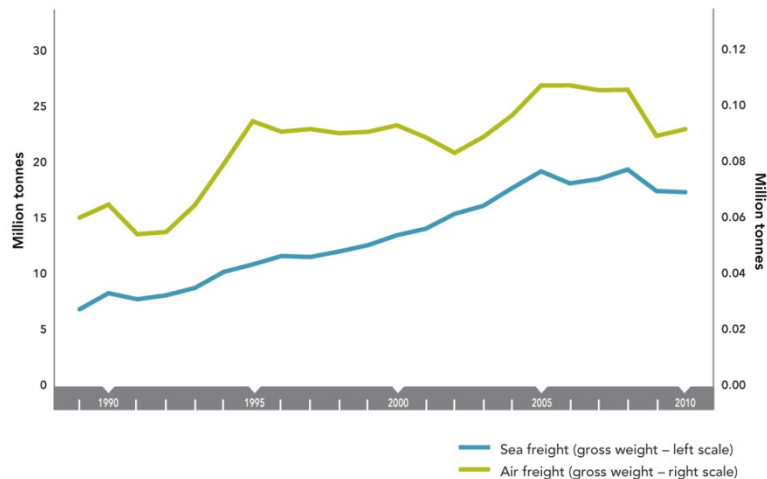
Despite New Zealand's relatively slow trade growth within the OECD, its freight exports and imports by weight have substantially increased over the past two decades (Figure 1.4 and Figure 1.5). Sea freight exports have nearly tripled in weight over this period, while air freight exports have increased by approximately two-thirds. Imports have also increased, but not as dramatically.

Figure 1.4 New Zealand exports by freight mode: 1989-2010



Source: Statistics NZ

Figure 1.5 New Zealand imports by freight mode: 1989-2010



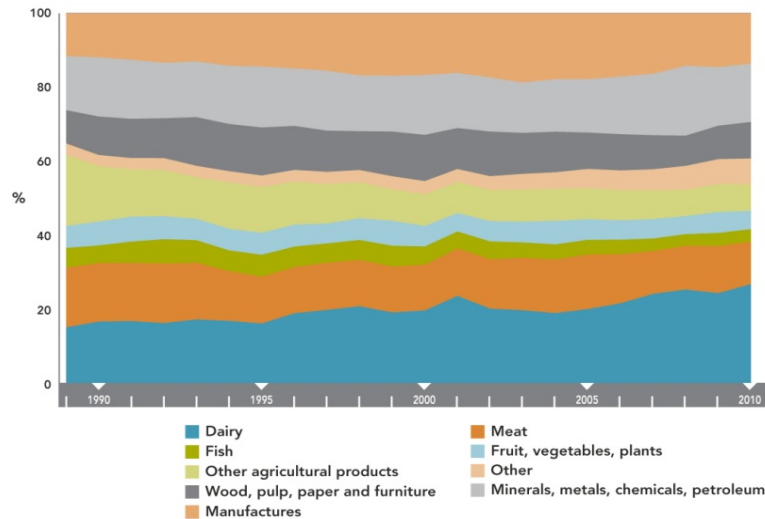
Source: Statistics NZ

New Zealand's trade patterns

With a relative abundance of land, a temperate climate and natural scenery, New Zealand's comparative advantage supports the production of land-based goods and services – agricultural products and tourism.⁵ As developing country incomes rise and consumer preferences develop further towards animal protein-based diets, there are likely to be increasing opportunities for New Zealand.

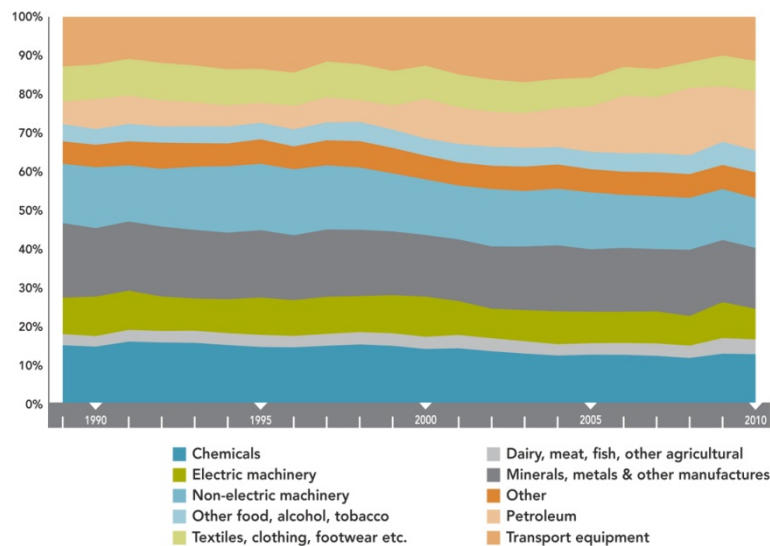
Figure 1.6 and Figure 1.7 show the composition of New Zealand merchandise exports and imports and how these have evolved over time.

Figure 1.6 Composition of New Zealand's merchandise exports: 1989-2010



Source: Statistics New Zealand

Figure 1.7 Composition of New Zealand's merchandise imports: 1989-2010



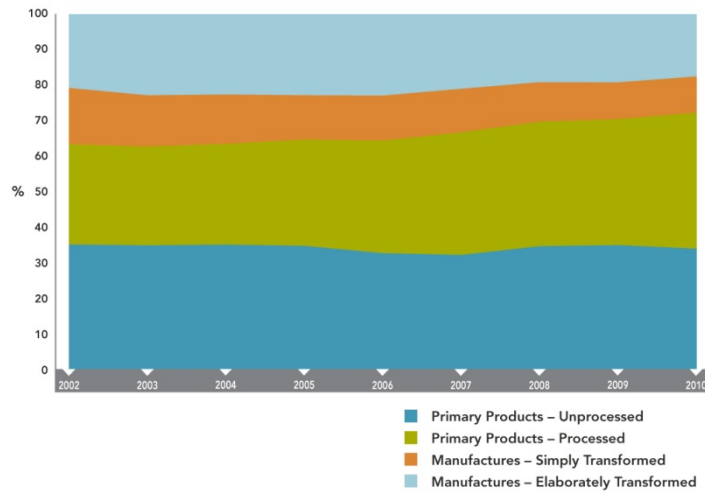
Source: Statistics New Zealand

There has been an increase in the proportion of New Zealand's primary products that are processed, instead of being sent offshore without any transformation (Figure 1.8). This may be due to the fact that New Zealand has some larger firms in the primary sector – such as Fonterra – that have scale and a domestic supply chain that includes processing.

⁵ This is not to say natural endowments fix a country's comparative advantage forever. Over medium to long periods some countries have achieved dramatic shifts in the composition of their exports. New Zealand's export composition has changed but to a lesser extent than many other countries.

Moreover, New Zealand’s primary goods can and do embody knowledge and technology that enables sales into highly differentiated markets based on quality and natural attributes supported by strong branding.

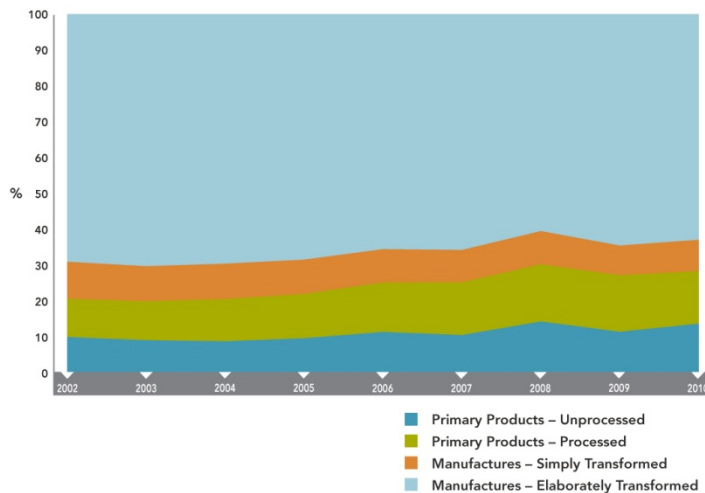
Figure 1.8 Breakdown of New Zealand’s exports by level of processing: 2002-2010



Source: Statistics New Zealand

New Zealand’s imports largely reflect its limited production of manufactured products and therefore limited demand for intermediate inputs into manufacturing production. Instead New Zealand imports final manufactured products from countries with the economies of scale that enable their low-cost production, as well as some bulk items such as oil and ingredients for agricultural fertilisers (see Figure 1.9).

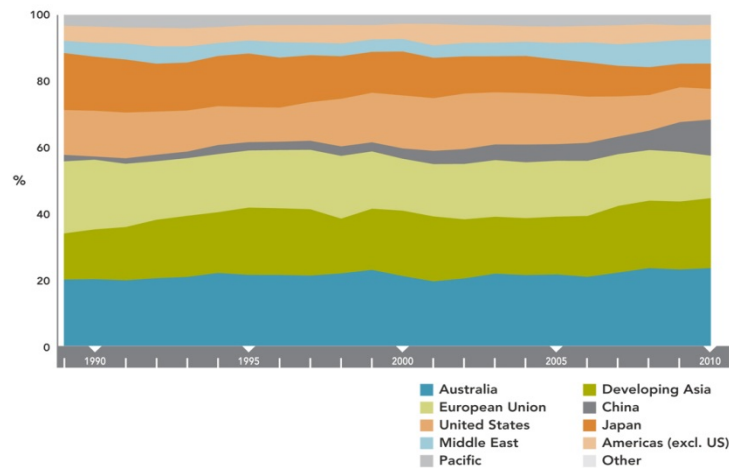
Figure 1.9 Breakdown of New Zealand’s imports by level of processing: 2002-2010



Source: Statistics New Zealand

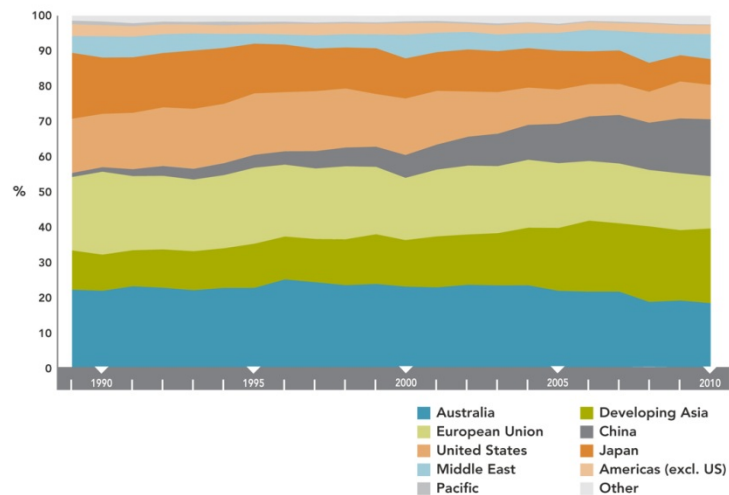
Figure 1.10 and Figure 1.11 show the destinations of New Zealand's exports and sources of its imports.

Figure 1.10 New Zealand's export composition by destination: 1989-2010



Source: Statistics New Zealand

Figure 1.11 New Zealand's import composition by origin: 1989-2010



Source: Statistics New Zealand

The benefits of better international freight services

As a trading nation New Zealand has a strong interest in improving the efficiency of its international freight transport services. As Yvan Guillemette, an OECD economist who worked on the 2009 OECD Economic Survey of New Zealand, wrote:

Because of the importance of maritime exports and imports to the New Zealand economy, anything that hampers maritime trade is likely to be a significant constraint on economic performance.

Guillemette, 2009, p.12

This is not to argue that international freight is the only or most important issue for lifting New Zealand economic growth performance. A package of measures based on a correct diagnosis of the critical constraints holding back growth is needed for that. But it has a strong claim to be taken seriously as an area for attention and inclusion in such a package. This inquiry has 'kicked the tyres' of the international freight system to find out what changes to it would make the most difference.

How large are the gains that could be expected by lowering international transport costs? Venables (1996) suggests there is a "massive premium on proximity". Boulhol and de Serres (2010) suggest favourable locations (in terms of proximity to key markets) like Belgium and The Netherlands increase GDP per capita by about 6% relative to the OECD average. In contrast, more distant locations such as Australia and New Zealand experience a decrease of about 12%. Eaton and Kortum (2002) use a trade model to test the

counterfactual of reducing the economic costs of distance to zero and find income gains (broadly measured) of 16% to 24% across a range of OECD countries, relative to the status quo.

New Zealand's exports have not kept up with the rate of growth in global trade in recent decades. While the export intensity of the economy has increased slightly, many of the small open economies within the OECD have seen much larger increases in export intensity.

One way New Zealand can do better is by making its international freight transport system more productive and efficient. This will raise returns to businesses and workers engaged in international trade and enhance the economy's prosperity overall.

F1.3

New Zealand's small home market and distant location pose difficult challenges. The costs of being economically distant from key markets – both in terms of direct transport costs and the opportunity costs of time – are substantial impediments to New Zealand's ability to participate effectively in the global economy.

F1.4

Improving New Zealand's international freight system will help mitigate its geographical distance from markets and raise its ability to participate effectively in the global economy. A more efficient and effective freight system can raise the prosperity of New Zealand's businesses and workers and enhance consumers' purchasing power.

2 The Commission's framework

This chapter describes the analytical framework that the Commission has adopted for this inquiry. This framework describes the key systemic features of international freight transport services. Its purpose is to help identify problems in the international freight system, understand their causes, and formulate the best options for solving them.

Key points

- Competitive markets generally do a good job in generating efficient outcomes, but sometimes suffer from 'market failures'.
- An efficient outcome occurs when firms provide whatever goods and services customers want whenever they can profitably provide them at prices those customers are willing to pay, but without earning excessive profits; and there are sufficient incentives for firms to provide customers even better value for money in the future by investing and innovating in plant, new technology and infrastructure.
- Economic efficiency (broadly defined) is the key yardstick of performance for the international freight transport system. An efficiency approach is not just about financial outcomes but takes account of harmful effects of freight transport on the environment and other market failures. Other important influences on wellbeing are better dealt with through broader policy levers than ones connected directly to international freight.
- New Zealand's international freight transport services can be usefully viewed as a *system*. This inquiry focused on the elements and links of this system – the interactions of institutions and policies on medium-to long-term trends in 'hard' and 'soft' infrastructure investment, the transport services that (predominantly) private-sector firms choose to supply, and the overall logistical system serving exporters and importers. It examined relationships between modes – air, sea, road, and rail.
- International freight transport has distinctive characteristics such as large, lumpy infrastructure investments, tensions between funding to cover costs and pricing to encourage efficient use, and the importance of coordination and transit time along supply chains. These characteristics require central and local governments and the private sector to play their parts to make the system work efficiently.
- Enhancements in freight can, through a series of responses in the wider economy, lead to improved trade performance, higher GDP per capita, and ultimately higher wellbeing.
- Government has several roles in international freight transport including investing in and owning infrastructure, setting taxes and user charges, and regulating. But intervention is only justified where benefits outweigh the costs. Principles of good regulation should be used to design and monitor regulatory interventions, including the decision that regulation is the best option.
- Access to international freight transport does not mean services being provided to everyone regardless of cost, but their being provided where there is willingness to pay to cover the cost. Some cases, where relatively isolated producers cite a lack of access, are unlikely to fulfil this condition.

Competitive markets that do not suffer significantly from 'market failures' generally do a good job in offering consumers choices of goods and services from a range of suppliers. Moreover, such competition generates the lowest prices taking into account the resources needed to produce the goods and services. Competition achieves this because firms offering poor value for money lose custom and do not survive. It also provides the stimulus for firms to invest in new structures and equipment and invent and/or adopt new technologies that will make them more productive in the future. Another way to describe all this is that competitive markets, working well, generate *efficient* outcomes.

2.1 Wellbeing and efficiency

The wellbeing of New Zealand citizens is the relevant and appropriate high-level objective for inquiries into whether government policies can be improved. Attaining economic efficiency is one among a range of important ways to raise wellbeing. As explained below, it has played a key role in this inquiry.

There are three important dimensions to economic efficiency, each of which relates some concept of outputs and their value to the resources used in their production.

- *Productive efficiency* is achieved when goods and services are produced at the lowest cost of production.
- *Allocative efficiency* is achieved when the goods produced correspond best to what people want. In general, when there are no barriers to trade and prices reflect the marginal social cost of production, the product mix is allocatively efficient.
- *Dynamic efficiency* is achieved when optimal decisions are made on investment, innovation, and market entry and exit, to create productive and allocative efficiency in the longer term.

In a situation where 'full efficiency' prevails, firms provide whatever goods and services customers want whenever they can profitably provide them at prices those customers are willing to pay, but without earning excessive profits; there are sufficient incentives for firms to provide customers even better value for money in the future by investing and innovating in plant, new technology and infrastructure; and there is cooperation with other firms as necessary to achieve further efficiencies.

In its Issues Paper, the Commission argued that efficiency of freight services should be the key focus in this inquiry:

The Commission's view is that, in the case of the subject of this inquiry, overall wellbeing is best served by promoting the economic efficiency of the logistics supply chain for New Zealand importers and exporters. Efficiency improvements should result in lower prices for imported goods and higher profits for exporting industries. Lower import prices directly benefit New Zealand consumers and firms, and higher returns for exporters are also likely to benefit employees through better wages and opportunities.

Productivity Commission, 2011, p.3

Several submitters criticised the Commission's approach as too narrow:

Well-being is not reducible to the narrow concept of economic efficiency set out in section 3.2 of the Issues paper. In a long-run perspective, productivity growth is hindered, not helped by policies that sacrifice social capital and political goodwill in pursuit of short-term gains, especially when those short-term gains benefit particular sections of the community at the expense of others.

New Zealand Council of Trade Unions, sub. 14, p. 6

Local Government New Zealand's submission drew attention to its set of principles:

In developing a view on the provisions in the issues paper we have drawn on the following high level principles that have been endorsed by the National Council of Local Government New Zealand.

Local Government New Zealand, sub. 42, p. 2

These principles included local autonomy and decision making; accountability to local communities; local difference = local solutions; reduced compliance costs; equity; and cost-sharing for national benefit.

The Commission acknowledges these concerns and recognises that an overly narrow focus on efficiency can be at the expense of overall wellbeing. For example, workplaces in the freight industry involve people – employers and employees who spend many hours performing various roles and earning their livelihoods. All have basic rights to fair treatment, respect, and an appropriately healthy and safe working environment. On the one hand, these rights cannot and should not be sacrificed in the name of greater efficiency. On the other, the Commission notes that higher productivity and incomes are a means to provide, and are often associated with, better working conditions.

It is also reasonable to expect that when a country's average income per head grows through growth in employment and/or productivity, the gains ought to give rise to higher living standards broadly across the population, rather than to narrow, privileged groups. If this is not happening, it would call for recognition of the problem and measures to correct it. This is not the same as expecting productivity gains within a single industry to flow entirely to the capital and labour employed within that industry. Part of the gains may accrue as lower prices to customers of the industry, or as higher prices to providers of complementary inputs such as land (Box 2.1). Such outcomes are part of the competitive workings of markets.

While acknowledging the above concerns, the Commission sees international freight's contribution to overall wellbeing as flowing largely from how efficiently businesses and workers undertake international freight activities.

Other important drivers of wellbeing are usually best enhanced through institutions and policies that have a broader application than solely within international freight transport services. For example, distributional fairness, social and procedural justice, equality of opportunity, and individual rights and freedoms are important influences on wellbeing. Whatever view is taken on desirable outcomes in these spheres, reducing the efficiency of freight transport is unlikely to be an effective means to achieve them. On the contrary, greater efficiency and productivity (properly defined) in freight transport will generally raise wellbeing without detriment to wellbeing's other dimensions, which are best pursued through different policy channels.

A further reason to focus on economic efficiency in this inquiry is that international freight is an 'intermediate' good or service.⁶ Freight services are not something to value for themselves, but as a *means* to achieve something that is valued – for example, consumer goods at a local retail outlet. So while people may have requirements for all sorts of features in purchasing, say, a mobile phone, they do not care about the various electronic components other than whether they work well and cost no more than they need to. The transportation inputs of the phone have a similar status.

Box 2.1 Who gains from productivity improvements?

Productivity improvements can be viewed in simple terms as either more output for the same quantity of inputs or the same output produced with fewer inputs. In either case, the initial effect of the productivity is to earn the business concerned higher profits because it can either sell more output (earning itself higher revenue) for the same cost, or it can maintain its revenue but reduce its costs.

However, this outcome where the benefit of higher productivity accrues only to the owners of a business as higher profits is not the only, or even the most likely, one. The table shows a range of possible polar cases where only one party gains. In practice, it is likely that the gains will be shared but not necessarily equally.

Outcome: who gains from the productivity improvement (PI)?	Conditions for this outcome	Mechanism
Owners of firm with the PI	PI is unique to the firm. Markets for the firms' outputs and inputs are all competitive.	Neither output nor input prices change for the firm. It pockets the gain in higher profits.
Workers in the firm with the PI	PI is unique to the firm. Workers have unique skills not easily replicated.	Firm uses at least some of the higher operating surplus from the PI to reward the workers, otherwise they will withdraw their labour.

⁶ Another way of saying this is that demand for international freight is a 'derived demand' in that the demand arises indirectly because of the demand for goods in a particular location that are produced or held somewhere else.

Outcome: who gains from the productivity improvement (PI)?	Conditions for this outcome	Mechanism
Consumers of item whose production experiences the PI	Item is produced by many firms competing with each other. Markets for all inputs are competitive.	Competition forces firms experiencing the PI to lower their selling price of the item.
An input to the firm with the PI other than labour	Input is in scarce supply, eg, land suitable for dairy farming.	The owners of the scarce input extract a higher selling price as new entrants are attracted by the higher profits from the PI.
An 'intermediate' buyer of the item whose production experiences the PI	The intermediate buyer has market power in the market for the item (or this market is competitive) and in its output market.	The buyer uses its market power or competition to extract the gain from the PI in the form of a lower input price. It then uses power in its output market to hold onto the gain (rather than be forced by competition to pass it on to its customers).

Source: Productivity Commission

Market failures

The Commission has kept in mind the potential for market failures to undermine efficiency and wellbeing even when there is plenty of competition between firms. Unpriced environmental costs are a common form of market failure and can disrupt the general result that competitive markets produce efficient outcomes. Other forms include congestion, concentration of market power, pricing in the presence of increasing returns to scale, and information problems. Table 2.1 provides a guide to the different potential problem areas and where they are dealt with in this report.

Table 2.1 Types of market failure in freight transport

Market failure	Nature of problem caused by freight transport	Where dealt with in the report
Environmental externalities	Greenhouse emissions, noise, soil and air pollution, visual intrusion	Environmental issues (Chapter 13), Resource Management Act (Chapter 8)
Congestion	Vehicles having free access to roads at times when additional vehicles will slow every other vehicle's journey on the same stretch	Not dealt with directly but is relevant to investment decisions particularly on road and rail infrastructure (Chapter 9)
Pricing with increasing returns to scale	High fixed costs and low marginal costs are characteristic of many freight technologies – pricing at marginal cost may fail to cover average cost	Freight economics (section 2.2), investment coordination and planning (Chapter 9)
Market power	Inefficiency because a powerful seller (or buyer) influences prices and other terms to their own advantage	Impediments to competition (Chapter 5), and regulation (Chapters 11-13)
Coordination failures	Investors in complementary investments that are 'lumpy', in the sense that the minimum scale of investment is large, will tend to underinvest to avoid stranded assets	Investment coordination and planning (Chapter 9)
Information externalities	Information available to everyone is a public good but markets may not supply it optimally	Information collection and dissemination (section 13.3)

Government failure

Because market failures detract from efficiency and wellbeing, it is reasonable to ask whether anything can be done to fix them. Potential solutions include environmental taxes, tradable permits, ownership, direct investment, and regulations to modify behaviours and encourage efficient pricing and investment.

But these solutions have costs and it is quite possible that a government's attempted solution to a market failure can end up making matters worse through so-called 'government failure'. Misgivings about the extent and efficacy of many government interventions in the economy were one of the catalysts for the extensive economic reforms in New Zealand that began in the 1980s, including in the transport sector (see Chapter 3).

Debate about whether government, with the public interest at heart, is capable of improving on the market, often centres on information issues. Freight logistics is a very dynamic service industry with multiple players, very diverse needs, and significant and quite rapid changes in supply and demand over time. It is complex, dynamic and information rich.

Inquiry participants identified 'strategic planning' or 'government leadership' as a solution to a wide range of problems in international freight transport services. However, any single player, including one as large as the government, will find it difficult to gather and process the large quantity and diversity of information needed to make optimal interventions to correct market failures.

In the majority of real-world situations, decisions have to be made with incomplete information about the growth and spatial distribution of markets, changes in technologies, input costs and many other variables. A great strength of a market system is that decisions are based on the knowledge, assumptions and judgements of a diverse range of market participants. This plurality is preferable to a single government master plan. The 'market' is generally better than a single decision maker at seeking out innovative solutions, cost saving, and closing down activities and ventures that turn out to be an inefficient use of resources.

Chapter 9 will discuss the significant costs and risks of centralised strategic planning and directive government leadership, and how government should be wary of calls for 'leadership' that involve it assuming the normal commercial risk of other parties.

While the Commission's recommendations in this inquiry are mostly to government, it has developed them with a healthy respect for the difficulties that governments and government agencies typically encounter in the presence of complexity, incomplete information and political pressures. It has tried to find recommendations that will improve the efficiency of international freight transport by striking the right balance between the risks of market failure and government failure.

F2.1

Economic efficiency (broadly defined) is the key yardstick of performance for the international freight transport system. An efficiency approach will take account of harmful effects of freight transport on the environment and of other market failures. Other important influences on wellbeing are best dealt with through other policy levers than the ones directly connected to international freight transport.

2.2 Freight economics – what are its distinctive features?

International freight transport services have distinctive features that influence the economics of the sector. Some of these features are New Zealand specific; some relate to the demand for international freight transport services and some to their supply.

Demand-side features

- Demand for freight services is 'derived' from the demand for goods to be available in specific locations.

- For some consignments, the certainty and duration of transit time are very important – for example, for perishable goods and fashion goods (Hesse and Rodrigue, 2004). Transit times and their costs are examined in section 4.4.
- Most shippers, especially suppliers to just-in-time industries, place a lot of importance on both the frequency and reliability of freight transport services. Shipping lines, either individually or in groups, often provide a weekly service to ports to satisfy this demand, even on long routes.
- There is a great variety of transport needs of individuals and firms, and constant changes in tastes, technology and other market conditions.
- New Zealand exporters have a relatively high demand for refrigerated containers and refrigerated ships (both called reefers) and the power systems that support them. Important New Zealand exports such as chilled meat, dairy products, fruit and fish underlie this demand.
- Much of New Zealand's freight exports is accounted for by large entities with high volumes such as Fonterra and Zespri. Imports tend to be more fragmented, although there are some big players such as Fonterra (again), the Warehouse, Foodstuffs and Progressive Enterprises, and some of the large whiteware and electronic retailers.
- Many small shippers rely on the services that exist as a result of the large-volume users.
- Non-container freight exports and imports are important in New Zealand's trade – eg, logs, fertiliser, oil, coal and bauxite.⁷
- New Zealand's freight demands have distinctive features such as long distances from foreign markets, relatively low freight volumes by international standards, and a high proportion of primary exports (many perishable).

Supply-side features

- Freight transport involves a complex supply chain that requires each link to play its part in an integrated network. This linking places a premium on coordination (in both operations and investment) across different firms and levels of government. Chapters 5 and 9 examine coordination issues.
- The freight transport sector is very diverse and dynamic, corresponding to the great variety of needs that are demanded. It has to cope with long international distances and challenging domestic geography.
- The sector is characterised by large, inherently lumpy investments – for example, half a ship or a runway is of little practical use. The large capital requirements and lumpy nature of these items make them expensive, sometimes owned by governments, and prone to competition and coordination problems (see Chapters 9, 10, 11, 12 and 13).
- Economies of scale mean that large freight volumes drive down unit costs. Economies of scale also mean that not all services can be provided at prices that shippers are willing to pay – for example, services with low volume. This may lead some shippers to feel they lack access to freight services (section 2.4).
- Container freight has experienced greater productivity improvement (for example, through standardised handling procedures) than bulk freight.
- There are large directional imbalances in flows of freight (and containers). This can have major impacts on costs and prices because uneven use of freight capacity on each leg makes the overall operation much less economic.

⁷ The Commission has estimated that 70% of New Zealand's imports and exports (by weight) are not shipped in containers.

- The cross-territorial nature of international freight may raise issues of jurisdiction and sovereignty in relation to regulation. Chapters 11 and 12 touch on some aspects of these.

The implications of some of these features – such as the tension between funding lumpy infrastructure and pricing it efficiently to users – are dealt with later in this section.

Transport services and costs affect the structure of the economy

Chapter 1 described the size and composition of New Zealand's international trade. These trade flows reflect the structure of the New Zealand economy which, in turn, is a function of not only the country's underlying comparative advantage in producing different goods and services but also transport costs.

When transport costs are high or service is inconvenient a country will produce many things it is not particularly good at producing, because transport costs and delivery times make sourcing inputs and delivering outputs expensive and inconvenient. For this reason, factors affecting the cost or convenience of the transport system potentially have a large effect on the structure of the economy – not just what is traded, but also what is not traded. Consequently, a key issue is not just the suitability of the international transport system to the economic sectors that currently use transport, but its unsuitability to the sectors that currently do not use it, but would use it if only costs were lower, or services more convenient.

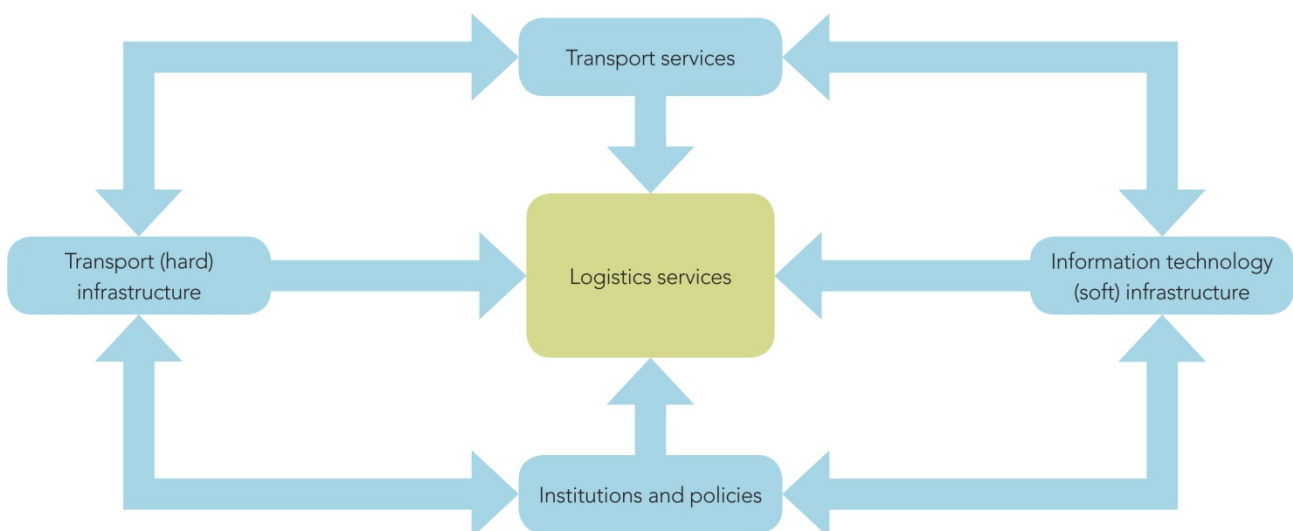
Unnecessarily costly or inconvenient transport services act in effect like tariffs on trade. Lower transport prices to exporters, importers, and those involved in domestic distribution are equivalent to reduced tariff barriers. By improving access to markets for firms' outputs and inputs, improved transport services can expand markets for the best firms, and contribute to economies of scale in production.

International freight transport as a system

New Zealand's international freight transport services can be usefully viewed as a *system*. The system components include freight forwarding, road and rail transport, port and airport handling, international sea and air freight, each with its own combination of technology, and supporting soft and hard infrastructure. Each will be influenced by policy and institutional settings, the nature of the freight carried (for example, bulk or containerised), and its origin and destination.

Figure 2.1 is a generic representation of important interactions in a logistics system and how they affect the supply of logistics services.

Figure 2.1 Interactions in a system for the supply of logistics services



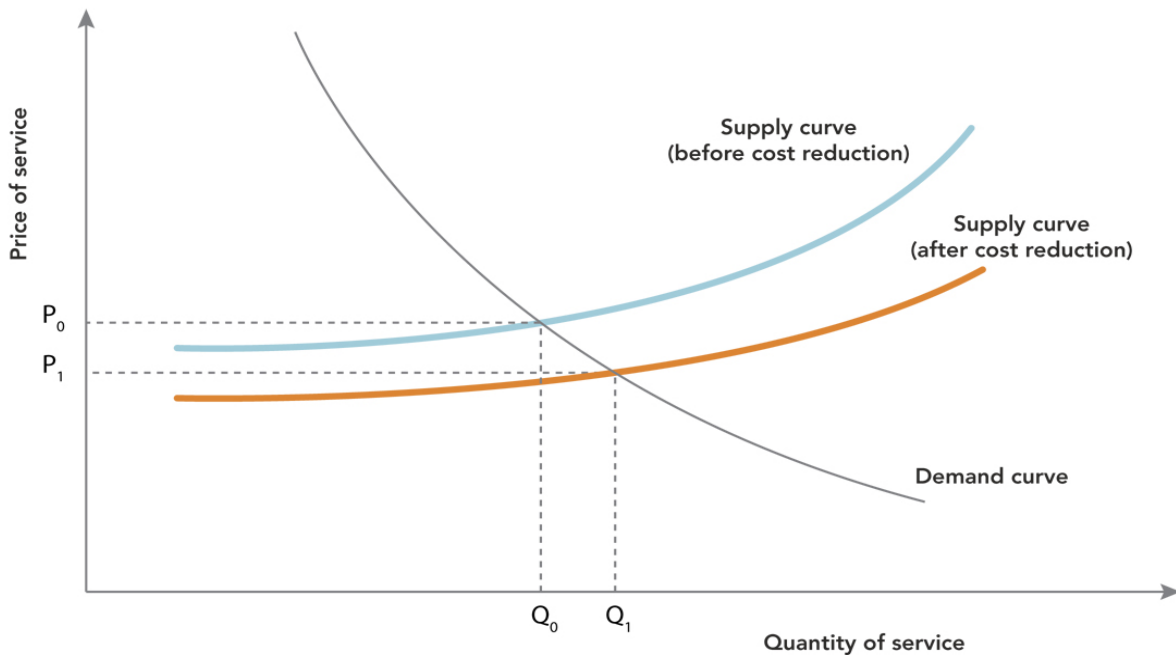
Source: Adapted from Figure 9, page 21, Lakshmanan and Anderson (2002)

This inquiry focuses on the elements and links in this figure – the influence of institutions⁸ and policies on medium- to long-term trends in 'hard' and 'soft' infrastructure investment, the transport services that (predominantly) private-sector firms choose to supply, and the overall logistical system serving exporters and importers. It has examined relationships between the various modes – air, sea, road, and rail.

There is also the demand side of the system

The great variety of needs of shippers for different logistical services, and their willingness to pay for them, create economic opportunities for firms to invest in freight businesses and meet these needs. Supply and demand interact in the normal way that markets operate to produce many different services in the quantities demanded. Figure 2.2 shows simple supply and demand curves for just one type of freight transport service and the resulting price and quantity supplied.

Figure 2.2 Supply and demand for a freight transport service



The position of the supply curve is critical to whether it is economic for shippers to transport goods and services to and from foreign markets – in other words, to trade. Much of this inquiry is about whether the supply curves for transport services are sitting as low as possible and thereby inducing maximum levels of trade. The supply curve's position will be influenced by many factors such as the level of competition in freight transport, cost-lowering technologies and other innovations, the quality of freight transport regulation, and public and private investment in freight infrastructure. The figure shows two supply curves to indicate the effects of a cost reduction on the price and demand for the freight service.

Investment in infrastructure

An investment in freight-transport infrastructure is typically a large-scale undertaking and even then it is only one part of a chain of investment. These investments are often funded and owned directly by central and local governments but commercial companies, under private, public or mixed ownership, also invest. The issues outlined in the rest of this chapter are examined in greater detail in later chapters: coordinating investment in infrastructure (Chapter 9); governance and ownership of infrastructure assets (Chapter 10); and regulating them to avoid competition problems (Chapters 11-13).

The role of government differs across modes. Whereas governments (central and local) supply the funding and make decisions on the road network, KiwiRail (a government-owned company) is the primary decision-maker with regard to rail and the primary investor in rail tracks, bridges and tunnels (with the government

⁸ Institutions are the 'rules of the game' in a broad sense and include property rights, the legal system, regulatory regimes, and the architecture of central and local government.

funding much of this investment). Investment in ports and airports (for example, in wharves, runways, cranes and terminal buildings) is made by port and airport companies, which also invest, along with large logistics and manufacturing companies (eg, Mainfreight and Fonterra), in freight hubs and depots.

Two key questions regarding the efficiency of investing in transport infrastructure are:

- What is the best way to encourage the optimal use of existing transport infrastructure?
- What is the optimal amount of investment in transport infrastructure?

Encouraging optimal use of infrastructure and other large freight-transport assets

From an efficiency perspective, there is a tension between paying for infrastructure and other large freight – transport assets and pricing them to users. This is because the high fixed costs and low marginal costs of these assets mean that pricing at marginal cost (to encourage efficient use)⁹ will generally raise insufficient revenue to cover the long-run average costs of investment. One solution is for government to fund the infrastructure, price it at marginal cost, and cover the loss through its ability to raise taxes. But this approach also entails an efficiency loss – the deadweight loss arising from taxes that distort decisions about working, consuming, saving and investing.

It might also be argued that fairness demands 'user pays' and users should pay the full cost and not just marginal cost. Sometimes, therefore, governments charge infrastructure users at higher than marginal cost and possibly at full average cost. An example of this is the various charges that road users pay. On the other hand, the government currently provides a degree of subsidy to rail.

For commercial companies such as port, airport and shipping companies, there are other ways to cover gaps between costs and revenues in order to improve financial results and economic viability. The impact these mechanisms have on economic efficiency needs to be assessed case by case. The main mechanisms that companies adopt in practice, either singly or in combination, are:

- Market power (if available) to price above marginal cost. In order to prevent excessive efficiency costs from this use of market power, the Commerce Act places restraints on behaviour and disclosure obligations to reveal rates of return on investments.
- Price discrimination among different groups of customers, so that those with greater willingness to pay are charged more than those with less. This approach can produce an efficient combination of user pays, marginal-cost pricing to achieve efficient use, and sufficient returns on investment to sustain a viable business.

Impediments to optimal infrastructure investment

Markets in which there are only a few potential investors, and where investments are large and 'lumpy' relative to the size of the market, typically suffer from commitment and hold-up problems. This combination of features is common in logistics markets.

Commitment problems occur because investments in one part of the supply chain must often be matched in other parts of the chain – for example, a port expansion may be useless unless matched by investments in land transport or long-term commitments by customers to use that port. If the supply-chain stages are owned by independent parties, then each party, fearing that its own investment will be stranded, has an incentive to delay investment until the others have committed. Under such conditions the overall level of investment typically will be less than optimal.

Hold-up problems occur when parties have assets that cannot be deployed to an alternative use. Potential users of these assets can negotiate favourable prices that do not cover the full costs of providing those assets. Anticipating hold-ups, firms may underinvest in such assets.

⁹ Pricing at marginal cost encourages efficient use because price represents marginal benefit as measured by a consumer's willingness to pay. Allocative efficiency involves production and consumption of a good or service up to where willingness to pay equals marginal cost, but not beyond this point.

Strategic interaction between firms will determine the prices that apply between stages of the supply chain. Bargaining power is typically determined by the number of choices each player has: those with no alternatives may find themselves unable to shift prices and conditions in their favour. A shipper with a choice of two ports has bargaining power over both the ports. Conversely, a port with a captive customer (one who has no economic alternative but to use that port) has bargaining power over both the customer and the shipping firms that service that customer.

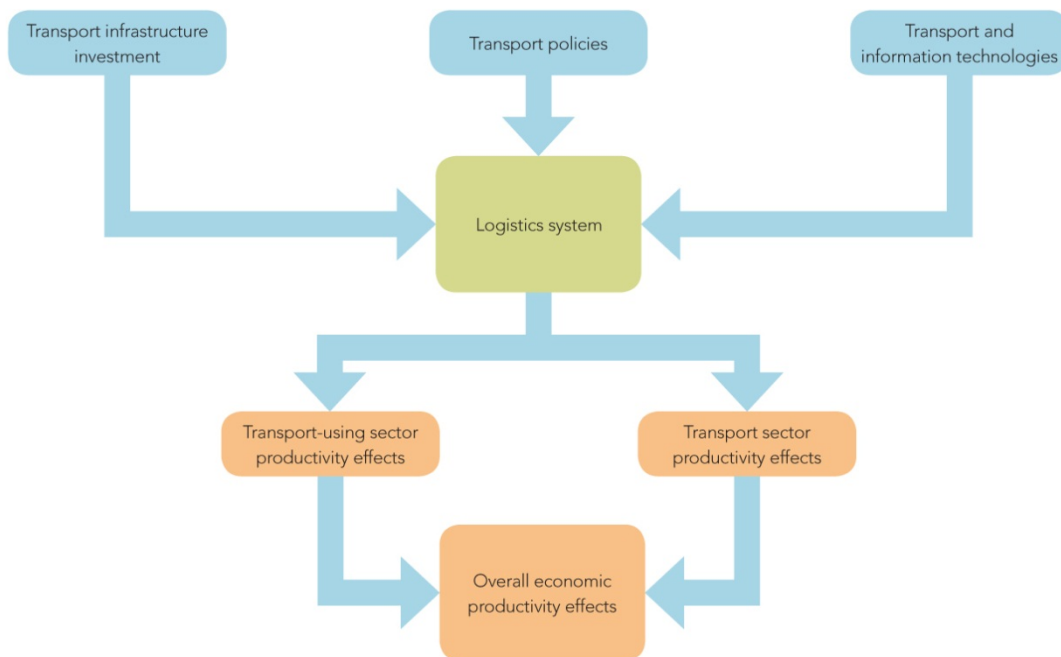
The results of the Commission's analysis of the problems of investing in and coordinating different infrastructure assets across New Zealand's freight-transport logistics system are described in Chapter 9.

Freight transport productivity feeds through to wider productivity gains

While the central focus of this inquiry is the logistics of moving freight into and out of New Zealand, there is an important connection between improved freight logistics and productivity in the wider economy.

Performance enhancements in freight, through a series of responses in the economy as a whole, will likely lead to improved trade performance, higher GDP per capita, and ultimately higher wellbeing than would otherwise be the case. An indication of the relevant economic interactions making up this connection can be found in Figure 2.3.

Figure 2.3 Transport policy changes, infrastructure and productivity effects



Source: Adapted from Figure 11, page 27, Lakshmanan and Anderson (2002)

The top of the figure shows three sources (as previously mentioned) of improvement to a logistics system: physical infrastructure investment ('hard' investment); technological changes in transport and information systems; and transport policies. Collectively, changes from these three sources influence the nature and performance of freight services. Examples include:

- Infrastructure investments in transport networks (for example, national and local road networks, a rail network, and terminals such as ports, airports, and freight hubs) expand capacity and allow safer and speedier movements and other operational improvements.
- Technological changes (eg, tracking systems, new ship designs, design and location of inland ports and freight hubs) have contributed to a variety of service and process innovations in freight logistics (see section 8.2 on freight technologies).
- Public policy changes in governance in the 1980s and early 1990s (eg, deregulation and corporatisation) altered economic incentives and released competitive forces. These and changes governing physical

flows (eg, regulations and investment to facilitate high productivity motor vehicles, and streamlined border processes) have also contributed to improved freight logistics.

Improved freight logistics productivity will lower prices and/or improve services to freight transport users. Freight transport users will respond to these gains by changing their demand levels and perhaps moving into new lines of production. As the lower left-hand arrow in Figure 2.3 indicates, this leads to broader productivity effects in the economy. The effect through the lower right-hand arrow occurs because higher productivity in the transport sector is part of productivity performance in the economy as a whole.

Ultimately, improvements in freight logistics help both freight firms (by cutting costs and/or adding value), and freight-using firms in the production of their goods and services.

Adding value to output may arise from freight logistics alone (Lakshmanan and Anderson 2002, pp.85-86). Using fresh fish as an example, the best way to add value to a fish is to do nothing to it – except get it to the consumer quickly! Fresh fish is worth more than salted, frozen, or otherwise processed fish.

Fish can be produced in only a limited number of places and has scarcity value elsewhere. Transportation makes it possible for the fish producer not only to expand markets but to reach markets where the product has a higher value than in its local market. This again would show up in Figure 2.3 as an effect flowing through the lower left-hand arrows. Similar logic applies to a variety of products that are produced in a limited number of locations because of highly specific skills or resources.

As pointed out in several submissions, meat exporting is a current New Zealand example in which the quality of transport services (particularly transit time) is crucial for the value add of the industry.

For both exporters and importers lengthy transit times add cost – the opportunity cost of capital tied up in goods while in transit. For exporters this cost generally cannot be passed on, given the competitiveness of international trade.

For exporters of perishable goods that have a limited shelf life, such as chilled meat, long transit time also reduces an exporter's ability to service a market with confidence, and if transit times are too long, the export of chilled product is not a viable business model.

As a significant, and growing, proportion of the industry's exports is premium priced, time-sensitive, chilled product, transit times are becoming increasingly important for the meat industry.

Meat Industry Association, sub. 52, p. 5 ¹⁰

F2.2

International freight transport can be viewed as a system with a number of distinctive characteristics such as diverse needs, large, lumpy infrastructure investments, tensions between funding to cover costs and pricing to encourage efficient use, and the importance of coordination and transit time along supply chains. These characteristics require both central and local governments as well as the private sector to play their parts to make the system work efficiently.

2.3 Government has various important roles in freight transport

The early part of this chapter described the prime role for markets and competition in promoting economic efficiency in the freight transport system. Complementing markets, the government has a variety of roles to play; for example, where market failures occur and where the benefits from intervention are likely to outweigh their costs. The following list briefly describes the various potential roles of government in relation to the freight transport system.

Creating, shaping and maintaining institutions. Institutions are 'the rules of the game' in a broad sense and include property rights, the legal system, the regimes for monetary and fiscal policies, and the architecture of central and local government. Governments have a role putting in place good institutional arrangements,

¹⁰ Refer also to Federated Farmers, sub. 27 and Export New Zealand, sub. 44.

within which people and organisations face incentives to act in ways that contribute to the common good. The New Zealand Transport Agency (NZTA), the Ministry of Transport, Maritime New Zealand, the Civil Aviation Authority and KiwiRail (as a state-owned enterprise) are all government organisations that form part of the institutional fabric of the freight transport system.

Policy setting – governments set objectives and priorities on behalf of society and they develop and implement policies across a wide variety of fields such as education, health, labour markets, and transport. Part of this role involves Parliament passing new laws or reforming existing ones.

Investing in infrastructure and transport operators – examples include road and rail infrastructure, and putting money into transport operators Air New Zealand and KiwiRail.

Ownership – often linked to investment but distinct from it. All New Zealand commercial ports are majority-owned by local authorities, as are some airports.

Taxation – taxes such as GST, fuel excise tax and corporate taxes affect decisions of suppliers and users of freight transport services. The revenue may also help to finance transport investments and operating expenses. Taxes are also a tool to internalise negative externalities.

User charges – an alternative means to taxation to create incentives for and raise revenue from freight transport and infrastructure users in cases where the government provides these.

Spending – for example, the NZTA and local governments spend money to subsidise passenger bus and train services even though they do not own the bus and train companies that supply these services.

Regulation – central and local governments make and enforce regulations affecting international freight transport services. They include regulation to improve environmental outcomes, land use, safety, competition, and the provision of regular and reliable services. They also include international agreements relating to trade, border security, and air and sea transport.

Is government performing the right roles in the right ways?

Identifying the wide range of government roles in freight transport opens up a range of questions that later chapters in this report attempt to answer.

- Is government performing the right roles in the freight transport sector (eg, does it need to own ports and railways?)
- Is it performing its roles efficiently and effectively?
- Are central and local governments' revenue-raising and funding methods efficient?
- Is the assignment of roles appropriate within government? (eg, are policy setting and service provision being assigned to the right agencies?)
- Are the accountability frameworks fully developed?

The quality of regulation is important for efficiency

Regulation is a particularly important role of government in international freight transport. Poor-quality regulation can harm economic efficiency and it could be better to have no regulation rather than bad regulation. Deregulation in New Zealand during the 1980s and 1990s was largely aimed at releasing and redirecting market forces to improve productive and dynamic efficiency.

Historically, the freight industry has been one of the most regulated industries. Indeed, in the United States the first instances of industry regulation at both the state level (in Illinois in 1870) and federal level (in 1887) involved transportation. Those interventions were intended to solve two perceived problems. First, as noted above, the large and lumpy nature of investments (eg, railways) meant firms were caught between trying to recover their cost of capital and, when there was competition, the incentive to price at marginal costs. The regulation allowed coordinated price setting and route sharing. Secondly, smaller regions and towns that

were serviced by monopoly or oligopoly suppliers found they had much higher transport costs than larger cities, and accused the providers of price gouging. The regulation gave buyers with transport access prices closer to those of their larger neighbours. The potential tension between these two issues – the incentive for suppliers to collaborate to ensure the cost of capital is met, and the ability of these collaborating suppliers to charge high prices to small region markets – remains today. Chapters 4 and 11 address this issue in relation to the international shipping services to and from New Zealand.

International airports, ports, airlines and shipping lines are all subject to industry-specific regulation in New Zealand. The regimes have arisen over time in response to the particular history, characteristics and problems of these industries. Debate about the appropriateness and effectiveness of these regulatory regimes continues, and the terms of reference for this inquiry direct the Commission to pay particular attention to some of them.

Regulation enables and constrains the activities of participants in the economy. The challenge of getting it right – only regulating when the net benefits exceed those of other alternatives, and designing high-quality regulatory institutions and rules when the regulation option is chosen – has prompted much effort to develop principles of good regulation (Mumford, 2011). Without putting forward a formal set of principles itself, the Commission supports rigorous appraisal and evaluation of new and existing regulations. They should be subject to questions like:

- What does the regulation aim to achieve?
- Is that aim valid or sensible?
- Will the regulation achieve that aim?
- What side effects does it create? Are those worse than the problem it attempts to solve?
- Are there more cost-effective ways to achieve the aim?
- Is the regulation likely to be flexible, durable, and able to continue to deliver net benefits when circumstances change?
- Is it certain and predictable?
- Are the regulatory processes transparent and is the regulator accountable?

Later chapters address at least some of these questions in relation to the regulation of different parts of the freight transport system.

F2.3

Government has a number of roles in international freight transport. But intervention is only justified where benefits outweigh the costs. In particular, principles of good regulation should be used to design and monitor regulatory interventions, including the decision that regulation is the best option.

2.4 Access to international freight services

The terms of reference for this inquiry include the question of how far New Zealand's infrastructure and regulatory regimes promote "accessibility and efficiency in international freight transport services" for New Zealand firms. In its Issues Paper, the Commission gave an interpretation of accessibility:

In an efficient system, firms provide whatever goods and services customers desire whenever they can profitably provide them at prices those customers are willing to pay.

An accessibility problem exists if a good or service is not supplied, even though demand exists and it could be efficiently provided.

However, it is evident from submissions that the term 'accessibility' is subject to other interpretations. For example:

"Accessibility" cannot be reduced to "efficiency". Accessibility is separable from efficiency ... and encompasses a wide range of matters ... many of them with important regulatory implications. Examples include:

- The role of logistics "hubs" in facilitating or obstructing transfers of cargo amongst transport modes;
- Open or restricted access for third-party competing suppliers to key infrastructure assets such as oil unloading and storage facilities at major ports;
- Dredging programmes and port facilities installation to increase the size and/or range of ships that can be handled at particular ports (often leading to excessive competition and stranded investments)
- Role of competing pilotage and stevedoring operations at the ports
- Allocation of landing slots at international airports.

New Zealand Council of Trade Unions, sub. 14, p. 8

Also:

Because the majority of international air cargo moves on passenger aircraft and because the source or destination of air cargo is not the principal determinant as to the airport that a passenger aircraft uses there is no competition between Auckland, Wellington and Christchurch Airports for air freight.

This unfortunately leads to the situation where airports as landlords for air cargo operations give little or no priority to the efficient and effective siting of cargo handling facilities.

New Zealand Air Cargo Council, sub. 8, p. 3

Several other submitters and inquiry participants have drawn the Commission's attention to various examples of accessibility 'problems'. Prominent amongst these were an alleged lack of air freight services from places such as Christchurch and Southland for time-sensitive export products such as cut flowers, horticulture and seafood (Christchurch International Airport, sub. 39; Environment Southland, sub. 4).

Relatively isolated producers may have to bear considerable transport costs and delays in the local parts of the freight system, and these may mean, in some cases, that exporting from those locations is not viable. The quality of the transport network will generally vary according to volumes carried, so in many cases the initial link into the supply chain will be a rural road, and the distance to the nearest consolidation point (for example, a freight terminal, railhead, port, or airport) could be long. From a national welfare perspective, it makes sense for the level of investment in any part of a transport network to reflect the current or prospective volume of traffic. So connectivity to, and the standard of service on, road and rail networks will vary widely.

The question for this inquiry is whether cited instances of lack of access are 'market failures' or whether they are examples of the demand for these freight services – as measured by willingness to pay – falling short of the resource costs of providing the services. The Commission remains comfortable with its interpretation of accessibility. This report examines many of the other interpretations above elsewhere (see, for example, Chapter 5).

F2.4

Access to international freight transport does not mean services being provided to everyone regardless of cost, but their being provided where there is willingness to pay to cover the cost. Some cases, where relatively isolated producers cite a lack of access, are unlikely to fulfil this condition.

3 International freight transport – how it operates and performs

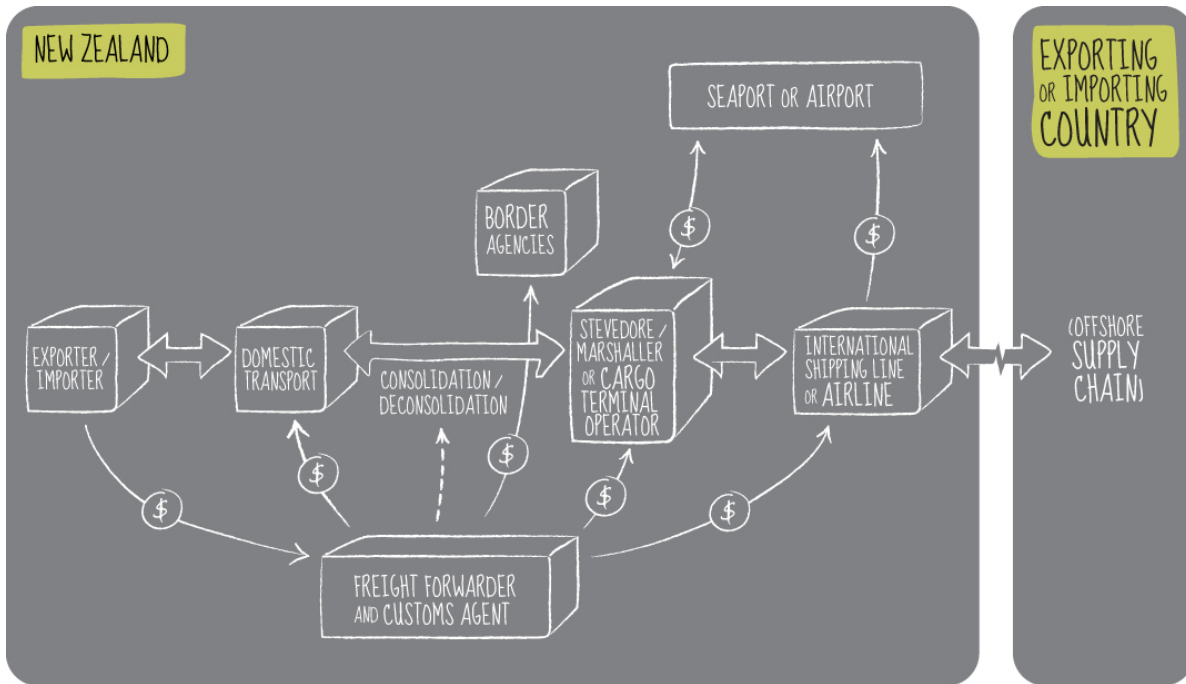
This chapter outlines the performance of New Zealand freight transport services. It begins by briefly describing the mode of operation and main players in the freight logistics industry. It goes on to review the major reforms that have occurred in New Zealand's transport sector, and the productivity and performance of the international freight chain, both over time and in comparison with other countries.

Key points

- The international freight supply chain encompasses a range of services connecting producers to consumers. Accordingly, a performance assessment needs to cover all components of the supply chain.
- The New Zealand transport sector was the subject of a number of important reforms from the mid-1980s until the early 1990s.
- In an international comparison, the OECD recently assessed New Zealand's regulations in the airline, road and rail sectors to be around the OECD average in the extent to which they encourage competition.
- New Zealand's transport and storage industry experienced strong productivity growth in the 1990s but virtually no productivity growth in the 2000s.
- Productivity measures indicate that New Zealand ports and airports compare favourably with Australian counterparts. Compared internationally, New Zealand official border services are efficient.
- Container productivity indicators show considerable variation in the performance of New Zealand's ports, with Tauranga being the strongest performer. This suggests there may be opportunities to either lift the performance of some ports or for further shifts in freight towards the top performers.
- Compared internationally, New Zealand has low volumes of freight per kilometre of rail, and small trains and trucks.
- Most of the six major ports analysed recorded negative Economic Value Added (EVA ®) from 2008 to 2011, although there was improvement from 2009. This raises questions about how efficiently owners have allocated capital to ports over this period and the valuation of port assets. However, it is important to note that this was a period of very slow growth in trade volumes.

3.1 New Zealand's international freight services – a description

This section briefly describes the components of New Zealand's air and sea freight supply chains. International freight logistics is a complex process involving a number of different operators and various contracting arrangements. The logistics chain can be split into a number of distinct phases, with New Zealand exporters and importers at the beginning and end of the chain respectively (Figure 3.1).

Figure 3.1 The New Zealand leg of an international freight journey**Notes:**

1. The thick arrows indicate the direction of the physical movement of freight, and the thin arrows indicate where payments for services usually occur. The dotted line indicates where freight forwarders perform consolidation services.
2. This diagram shows a typical example, but the actual supply chain arrangement will vary depending on the firms and the product. For instance, some shippers do not employ freight forwarders. The diagram is also more representative of container shipping than non-container shipping. While cargo terminal operators pay airports to use airport facilities, stevedores and marshalls generally receive payments from the port (hence the bi-directional arrow between these components). As the Port of Napier submission emphasised, New Zealand firms use a variety of pathways to and from foreign markets (sub. 10).
3. There will be similar supply chain arrangements in the country of destination (for exports) or origin (for imports).

Freight forwarders organise the movement of freight

Many exporters and importers use freight forwarders. Forwarders facilitate the movement of freight along the logistics chain and play a key role in ensuring that transport links are reliable, tailored to the product and timely. This includes booking space, dispatching cargo and delivering it to the end user, completing all relevant documentation and paying for shipments. Freight forwarders may consolidate freight from various sources into larger shipments. Freight forwarders in New Zealand may also act as customs brokers and organise inspections and clearance in sending and receiving ports. Some freight forwarders also provide supply chain management services, such as warehousing operations (eg, Schenker New Zealand Ltd) or international courier services (eg, DHL Global Forwarding). Some of the larger freight forwarders will reserve space with a shipping company or airline and act as wholesalers, subcontracting space to other forwarders.

Around 60% of New Zealand's international maritime trade is handled by freight forwarders. For air freight, the share may be as high as 95%. Freight forwarding is more common for container shipping than non-container shipping. Non-container shipping consists mainly of carrying single cargoes in large volumes and there is no need for consolidation. However, non-container shippers often use freight forwarders to handle border clearances.

There are approximately 300 freight forwarders in New Zealand, but a considerable proportion of New Zealand's exports are handled by a group of the ten largest New Zealand-based freight forwarders. On the import side, ten overseas-based freight forwarders account for a significant volume of shipments to New Zealand (*Commerce Commission v Air New Zealand Ltd*, 2011).

Domestic transport moves freight to and from ports and airports

The modes of domestic freight transport in the New Zealand context are:

Road

A large number of trucking companies operate in New Zealand, with many small regional operators and owner drivers. However, the largest 2% of operators operate 32% of all vehicles and may also offer national distribution and logistics management services (Upton, 2008).

Rail

KiwiRail is a State-Owned Enterprise operating with multiple business units. KiwiRail Network (formerly ONTRACK) maintains and operates the rail network. KiwiRail Freight provides rail freight services and locomotives for passenger services (KiwiRail, 2010b). KiwiRail Freight operates approximately 800 services per week around the country and competes in three broad freight markets in New Zealand:

- bulk commodities – including coal, steel, logs, raw milk and chemicals;
- import and export – largely containerised goods, moving to and from major ports; and
- the domestic market – all other products that are transported on the rail network whose end destination is not directly for an international market (KiwiRail, 2010b).

Coastal shipping

New Zealand's domestic shipping fleet is very small, although international shipping companies are also active in this market. The domestic fleet consists of only 15 commercial ships exceeding 45 metres in length (Rockpoint, 2009). These are specialist bulk carriers, the inter-island ferries or general freight ships. Rockpoint surveyed the coastal shipping industry in 2009 and noted:

Shipping is particularly suited to bulky, heavy products but there exist few growth opportunities for coastal shipping in this natural market segment. In the trade of containerised goods, coastal shipping offers a significant price advantage over road and rail, offering the lowest transit costs in cents/tonne-km. This strength however needs to be balanced against the cost of intermodal delivery, given most journeys require a road or rail leg.

Rockpoint, 2009, p.8

Domestic air freight

The aircraft used on domestic routes have a relatively small freight capacity and often cannot carry the standard containers or 'unit load devices' that are used for international air freight. For this reason, domestic air freight is not a part of most international transport supply chains in and out of New Zealand, and is not a focus of this report.

Government agencies provide border services

Border control, security and safety services are provided by government agencies at airports and seaports. These agencies are described in Table 7.1 of Chapter 7.

Shipping operators, ship owners and ship brokers provide sea freight services

Shipping operators

Shipping operators transport cargo internationally between seaports. There are a number of different types of shipping operations, which are outlined in Box 3.1.

The main distinction is between container and non-container shipping. Container shipping refers to cargo ships that carry their entire load in truck-size intermodal containers. Non-container shipping concerns vessels designed to carry homogenous unpacked or packed dry, refrigerated, bulk or liquid cargo for individual shippers. The entire cargo is normally owned by one or more shippers. Non-container shipping is also referred to as 'general' or 'tramp' shipping.

The two modes of shipping operate in different ways. Container shipping involves regular scheduled sailings, whereas non-container shipping involves non-scheduled routes via individual contracts with the cargo owner.

Box 3.1 Modes of shipping services to and from New Zealand

Container shipping

These ships carry containers that are typically 20 or 40 feet long. Ship capacity is measured in twenty-foot equivalent units (or 'TEUs' – the unit being a 20 foot by 8 foot by 8 foot container). As discussed in Chapter 4, charges for container shipping services vary by commodity, weight and route.

Non-container shipping

Bulk and general cargo shipping

These ships carry cargoes such as grains, fertiliser, steel, iron ore, wood chips, logs and cement in their cargo holds. Logs, coal and fertiliser are important bulk cargoes for New Zealand.

Bulk cargo can be separated into 'break-bulk' and 'dry-bulk' cargo. Break-bulk cargo is of a peculiar mass or shape that is difficult to pack in 20 or 40 feet containers (eg, cargo packed in bags, boxes or drums), whereas dry-bulk cargo is shipped loose in the hold of a ship (eg, coal or cement).

Bulk reefer shipping

A refrigerated ship or 'reefer carrier' moves commodities which require temperature-controlled transportation (this does not include refrigerated containers, which are referred to as reefer containers). Perishable New Zealand export commodities such as kiwifruit, meat, dairy and fish either use these vessels or are carried in reefer containers.

Roll on, roll off shipping

Normally called Ro-Ro class, these vessels carry wheeled cargoes, for instance cars, trucks, and other heavy machinery into New Zealand. A large proportion of these vessels carry backloads (return trips out of New Zealand) of products such as export timber.

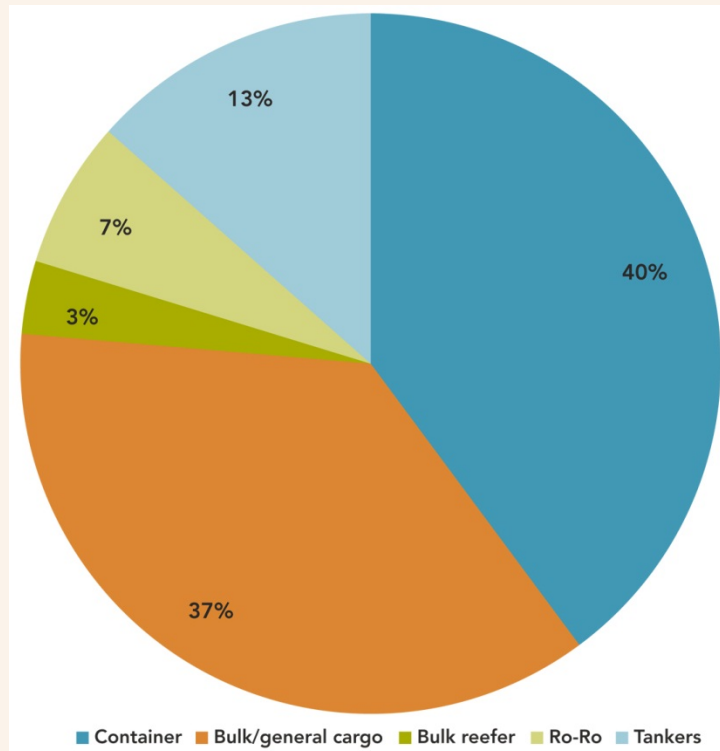
Tanker or 'liquid-bulk' shipping

These vessels are designed to carry liquids in bulk. The major types are oil tankers, chemical tankers and liquefied natural gas tankers. New Zealand's oil companies operate two petroleum vessels, which are managed by Coastal Oil Logistics Ltd. The oil companies also occasionally undertake international spot charters to transport additional oil cargoes when necessary.

Proportion of voyages by different modes

Figure 3.2 shows the proportion of voyages by mode.

Figure 3.2 Shipping modes as a proportion of voyages to and from New Zealand: 2010/11



Source: Maritime New Zealand

Ship owners

Traditionally, family businesses or governments have owned ships. In recent years, “banking and retail investment finance have been making inroads into shipping ownership” (Ministry of Transport, 2010a). While shipping lines generally own some of the ships they operate, over 50% of container shipping capacity is chartered from ship owners (Ministry of Transport, 2010a).

Ship brokers

Ship brokers are key intermediaries between ship owners and cargo owners. In New Zealand, following a number of mergers and acquisitions in the global shipping industry, six ship brokers arrange a large proportion of vessel charters.

Ports provide berths for coastal and international ships

Whangarei, Auckland and Tauranga ports handle over 70% of New Zealand’s imports by weight (Table 3.1). The handling of exports is more dispersed across the ports. This is particularly the case when measured by weight, whereas Auckland and Tauranga dominate when exports are measured by value.

Table 3.1 Sea freight imports and exports by port – percentage of New Zealand totals: 2010

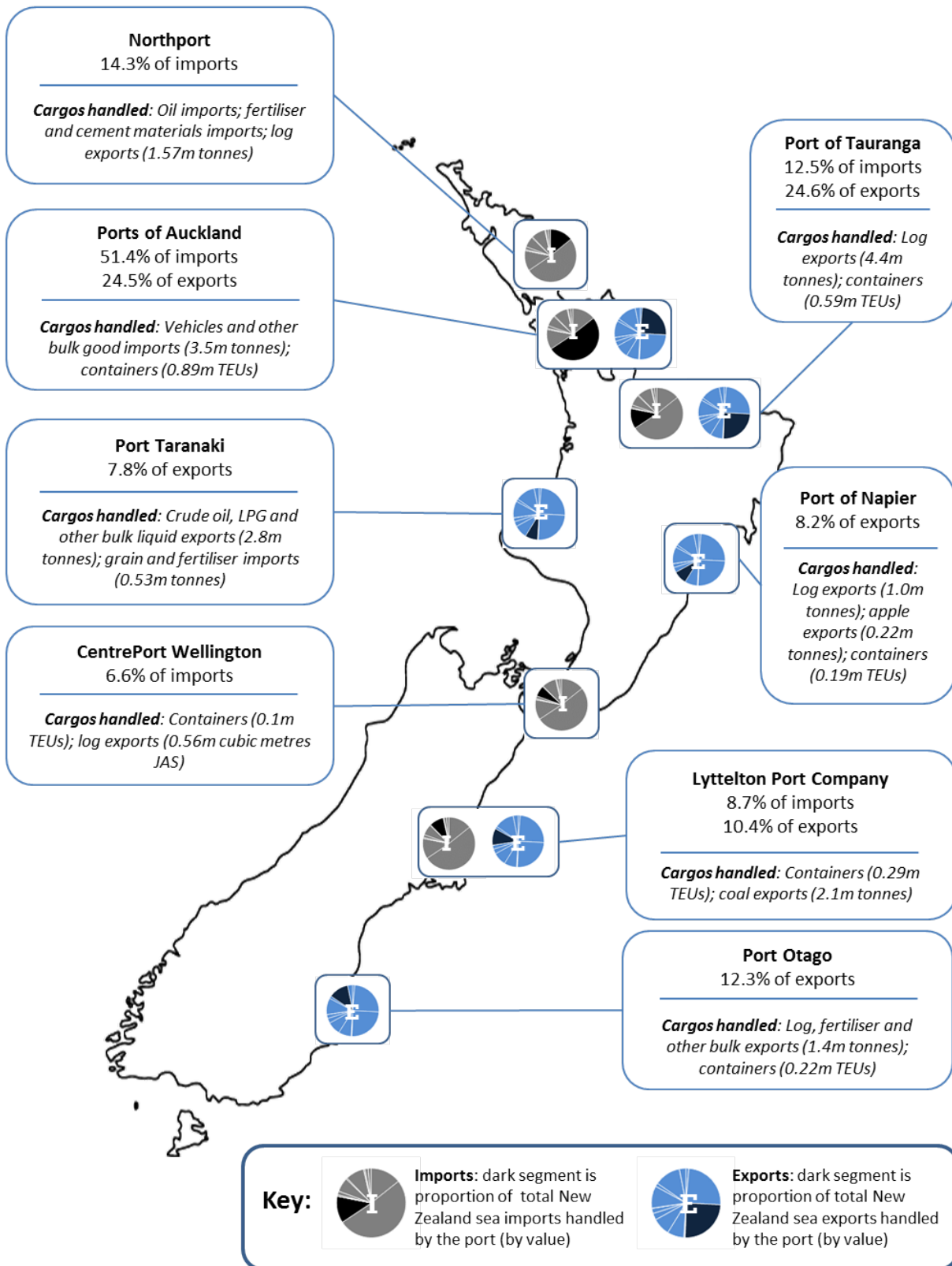
Port	Imports (by value)	Imports (by weight)	Exports (by value)	Exports (by weight)
Northport (Whangarei)	14.3%	31.3%	1.3%	6.5%
Auckland	51.4%	21.1%	24.5%	9.1%
Tauranga	12.5%	19.3%	24.6%	27.3%
Taharoa	0.0%	0.0%	0.1%	2.8%
Gisborne	0.0%	0.0%	0.5%	4.3%

Port	Imports (by value)	Imports (by weight)	Exports (by value)	Exports (by weight)
New Plymouth	0.7%	2.4%	7.8%	12.2%
Napier	1.7%	2.8%	8.2%	8.0%
Wellington	6.6%	6.1%	3.1%	3.5%
Nelson	0.6%	0.7%	2.4%	4.2%
Picton	0.0%	0.0%	0.1%	1.1%
Lyttelton	8.7%	6.9%	10.4%	11.5%
Timaru	0.6%	1.6%	1.6%	1.0%
Port Otago	1.5%	1.9%	12.3%	5.9%
Bluff	1.5%	6.0%	3.1%	2.6%

Source: Statistics New Zealand

New Zealand's ports handle a range of different cargo types, as indicated in Figure 3.3. The main container handlers are Ports of Auckland and Port of Tauranga. The main bulk cargo handling ports are spread throughout New Zealand depending on the places of production for exports and the main markets for the imports. Port of Tauranga is a major log handling port, along with Northport, CentrePort, Port of Napier and Port Otago. Ports of Auckland handle vehicle imports and Port Taranaki handles oil and other bulk liquid exports.

Figure 3.3 New Zealand’s main ports by percentage of total value of imports and exports



Source: Statistics New Zealand data (for import and export percentages – 2010 calendar year), company annual reports 2011 (for cargo volumes – 2010/11 financial year).

Notes:

1. This diagram provides information on the current main ports for imports and exports. Ports are not depicted where the proportion of imports or exports is below 5% of the total value.

The business models used by ports differ across the country. In some cases, the port companies own and exclusively operate the full spectrum of port activities, including the provision of port infrastructure, equipment and operational services, and directly hire all labour required for port operations.

At the other end of the spectrum is the landlord port model, where the port leases the land to other operators. Eastland Port in Gisborne, which focuses on non-containerised cargo, is the closest New Zealand has to a landlord port business model with virtually all activities in this port undertaken by independent contractors.

In intermediate cases, independent operators compete with port companies for some port activities.

Stevedores and marshallers handle freight at seaports

Stevedores load and unload ships. For exports, marshallers receive cargo from road or rail transport and assemble it on the wharf ready for loading onto ships by stevedores. For imports, marshallers remove cargo from the wharves and prepare it for inland dispatch.

The contracting arrangements between the ports and freight handlers differ across freight type and ports. For bulk freight, stevedores and marshallers are typically employed directly by the cargo owners, with almost all ports facilitating choice. For containerised freight, freight handlers are employed by the port. The Port of Tauranga, however, is the exception and uses two competing companies for handling containers. Many of the stevedore companies operating in New Zealand offer services at more than one New Zealand port.

The freight-handling industry uses sophisticated ICT systems for services such as inventory control, warehouse management and vessel planning.

Airlines move freight by air

The majority of New Zealand's air freight is carried in the bellyholds of international passenger aircraft. Airlines most commonly sell air cargo services to origin freight forwarders. In the past, the International Air Transport Association (IATA) coordinated air freight pricing. However, although still used as a starting point, IATA air cargo rates and charges now play a less prominent role. Recently, 'integrators' have started combining aircraft, logistics and freight forwarding services to provide door-to-door transport of freight, particularly on trans-Tasman routes.

Airports provide land and infrastructure

Airports charge landing fees to airlines and earn revenue for providing facilities to cargo terminal operators, but they do not play a direct role in processing international air freight. The New Zealand Airports Association notes that "Airports in New Zealand do not participate directly in the international air freight services market other than by providing infrastructure or acting as landlord to the airlines and other companies participating in the industry." (sub. 41, p. 2)

Auckland Airport handles around 80% of air-freighted exports and over 90% of imports. Almost all of the remainder goes through Christchurch.

Cargo terminal operators handle freight at airports

At airports, freight is handled by cargo terminal operators (CTOs), otherwise known as ground handlers. CTOs are effectively the cargo handling agents for the airlines. Ground handling involves loading or unloading aircraft, breaking the cargo down or packing it up (although sometimes this is done by freight forwarders at their warehouses), and making the goods available to the freight forwarder at the airport.

Two CTOs operate at both Auckland and Christchurch International Airports – Air New Zealand and Menzies Aviation. Air New Zealand's CTO handles cargo for 14 international airlines, including Air New Zealand and Qantas. Menzies handles cargo for 8 international airlines. Airlines conduct a competitive tender for CTO services via a 'request for formal information' every 2–3 years.

3.2 A brief history of New Zealand's transport reforms¹¹

New Zealand's international freight transport sector has been shaped by extensive regulatory changes, particularly during a period of economic reform in the second half of the 1980s and the early 1990s. Prior to these reforms, the transport sector was subject to heavy government regulation, and government departments were directly involved in providing transport services. The regulatory environment was explicitly designed to favour rail, which was 100% government-owned (as it is now). In addition, extensive regulation limited the extent to which foreign transport firms were able to serve New Zealand markets.

Deregulation from the mid-1980s was undertaken as part of a broader reform agenda. The key reforms in the transport sector are outlined in Table 3.2. The following broad principles guided these reforms:

- Government policy advice, regulatory functions and service delivery should be clearly separated from each other.
- Service delivery operations are best carried out under a corporate form, preferably under private ownership, on a commercial, competitive basis.
- Government involvement in the transport sector should be based on regulatory neutrality;¹² and safety regulation in each mode should be done on a 'safety audit' (plus user-pays) basis, in which the regulator sets the performance standards and monitors whether operators comply with safety systems (Bollard and Pickford, 1998).

The reforms based on these principles led to fundamental changes in New Zealand's transport markets.

Table 3.2 Chronology of regulatory changes in the New Zealand transport sector

Regulatory change	Year
Corporatisation of state rail, air, and bus services	1982-84
Removal of restrictions on road and rail carriage	1983-86
Removal of restrictions on truck operations and competition	1984
Corporatisation and sale of airports and Airways Corporation	1986-91
Tendering of local authority bus services and liberalisation of licensing agreements	1987-91
Opening up of domestic aviation industry	1987
Granting of a number of landing and on-flying rights to foreign airlines	1989
Corporatisation of ports	1989
Deregulation of taxi industry	1990
Deregulation of stevedoring industry	1990
Removal of cabotage and deregulation of coastal shipping	1991-94
Privatisation of New Zealand rail	1993
New Zealand government buys an 80% stake in Air New Zealand	2001
Nationalisation of the New Zealand railway track	2004
Nationalisation of New Zealand rail (and ferry) services	2008
Auckland, Wellington and Christchurch airport companies subject to information disclosure	2008

¹¹ This section briefly describes key reforms that have been implemented in New Zealand's transport sector since the mid-1980s. The current state of transport regulation is discussed in detail in subsequent chapters.

¹² Regulatory neutrality requires that a government business is not advantaged by operating in a different regulatory environment to its competitors (Capobianco and Christiansen, 2011).

Regulatory change	Year
New Zealand Transport Agency established	2008
First National Infrastructure Plan released; introduction of Roads of National Significance	2010
Input methodologies determined for specified airport services	2010

Source: Bollard, Lattimore and Silverston (1996) for reforms from 1982 to 1993; Productivity Commission for reforms from 1995 to 2011.

Road freight restrictions were removed in the 1980s

Prior to reform, long-haul trucking (which was defined as trips greater than 150 kilometres) was heavily constrained. Road transport operators could only carry goods further than 150 kilometres if they were granted an exemption by a Transport Licensing Authority (KiwiRail, 2011a). As a result, all long-distance freight movements took place via rail and coastal shipping, wherever possible.

Since 1986, trucks have been able to compete with other modes over long-haul routes. The removal of this restriction saw rapid growth in freight volumes carried by road, largely at the expense of coastal shipping. Road now carries by far the largest share of the domestic freight market in New Zealand (Table 3.3).¹³

Table 3.3 Estimates of freight in New Zealand by mode: 1989/90 and 2006/07

Mode	Tonne – kilometres 1989/90		Tonne – kilometres 2006/07	
	Billions	Percent of total	Billions	Percent of total
Road	8.9	53.9	18.8	70.2
Rail	2.7	16.7	3.9	14.6
Sea (coastal)	4.8	29.2	4.0	14.9
Air (domestic)		0.2		0.3
Total	16.4	100.0	26.8	100.0

Source: Cavana, Harrison, Heffernan and Kissling (1998); Richard Paling Consulting (2008)

The government acquired rail in 2004 and 2008 and recently invested in rail freight

Despite extensive regulatory protections prior to reform, the financial performance of the rail sector was in perpetual decline (Heatley, 2009). This highlighted the need for reform in the sector.

Part of the response was the reorganisation of the Railways Department in 1982 into a government-owned corporation with a commercial mandate. In 1990, it was converted to a limited liability company that was privatised in 1993. The Government retained ownership of the land under the rail tracks, selling only the rights to use that land (under an 80-year lease).

The Government reacquired the track in 2004 and the rail (and ferry) operations in 2008. The workforce employed by the railways went from about 21,000 with the Railways Department in 1982 to about 5000 in the early 1990s, and 3757 in Tranz Rail in 2002 (KiwiRail, 2011a).

Since 2008, KiwiRail's freight business has undergone a significant rebuild. The Government committed in principle to a total package of \$750 million over three years, with the first appropriation in the 2010 Budget and the second in 2011.

The lion's share of the \$4.6 billion Turnaround Plan will be funded by KiwiRail itself from customer revenue during the 10 year plan. The money will be used to continue a range of projects, including new

¹³ As well as reforms to the road freight sector, fundamental changes to road funding and administration were also put into place (Dunlop, 1999; McDermott, Tolman and Lee, 1997).

locomotives and wagons, and improvements to the network – particularly on the main trunk route and in the ‘golden triangle’ of Auckland, Hamilton and Tauranga.

Minister of Transport (2010)

Ports were reformed in the late 1980s and early 1990s

From 1986, the Government began a two-stage approach to waterfront reform: commercialising the port authorities and changing labour force arrangements, with both measures intended to promote greater competition and efficiency.

Thirteen Harbour Boards became local government-owned port companies that were required to operate on a commercial basis under the Port Companies Act 1988. The port company owners at the time – generally local government bodies – were permitted to sell up to 49% of their shareholding at their discretion. Subsequently, the Port Companies Amendment Act 1990 allowed full private ownership of port companies. Over the period, shares in five of the port companies were listed on the stock exchange.

Labour relations were the other key element of port reform. The abolition of the Waterfront Industry Commission in 1989 allowed each port and stevedoring company to determine the number of people it employed on both a casual and permanent basis. The second stage of port labour reform was implemented as part of economy-wide reforms to labour market regulation through the Employments Contracts Act 1991.

Coastal shipping was deregulated and opened up to international operators in the 1990s

Much of the impetus for restructuring coastal shipping came from the deregulation of road transport. Prior to 1990, ships operating around the New Zealand coast were only permitted to carry designated cargo. However, these demarcation lines and relativities were relaxed. This permitted, for example, a cement vessel to use any excess capacity to carry containers (Cavana, Harrison, Heffernan and Kissling, 1998).

New Zealand labour market reforms contributed to significant changes in manning levels on coastal ships. For example, between 1989 and 1992, the workforce on coastal vessels is estimated to have fallen by between 20% to 40%. Freight rates on coastal shipping also fell dramatically over this period (Cavana, Harrison, Heffernan and Kissling, 1998).

The Maritime Transport Act 1994 partially removed cabotage restrictions. From this time, international vessels visiting New Zealand have been able to move cargo between domestic ports as part of an international voyage. The extra competition from foreign vessels caused freight rates for shipping containers and freight between New Zealand ports to drop. In particular, international vessels usually compete for north-to-south traffic, using spare capacity between the unloading of imports in northern ports and the loading of exports in southern ports before departing overseas (See section 13.1 for further discussion, including the 28-day restriction on international shipping lines operating on New Zealand’s coastal shipping routes).

Airports were partially privatised in the late 1980s and early 1990s

Auckland and Wellington Airports were corporatised and (partially) privatised under the Auckland Airport Act 1987 and the Wellington Airport Act 1990. As a result, private interests now own majority stakes in the Auckland and Wellington Airports. Christchurch Airport remains a public corporation that is jointly owned by the City Council (75%) and New Zealand Government (25%).

At the time of partial privatisation, airports were not covered by any specific regulatory provisions. Instead, airports were subject to a ‘light-handed’ approach to regulation under a strengthened competition law in the form of the Commerce Act 1986. From 2008, this Act does, however, subject the companies operating Auckland, Christchurch and Wellington International Airports to an information disclosure regime.

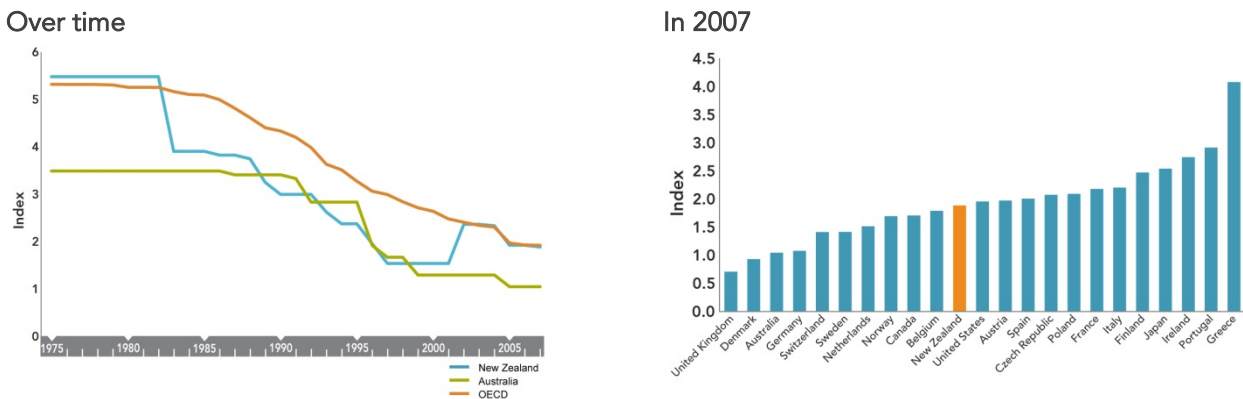
New Zealand's advantage in transport regulation began to fade

The OECD produces indicators of regulatory conditions in some transport sectors that provide a basis for assessing New Zealand's reform experience in international context. These indicators measure the extent to which regulations in the airline, rail and road sectors are conducive to competition.¹⁴

As is apparent from Figure 3.4, in the late 1970s and early 1980s the stance of regulation in these three transport sectors in New Zealand was slightly more restrictive of competition than in the average OECD country, and significantly more restrictive than in Australia. However, over the following 15 years, transport reforms in New Zealand moved more quickly than in other OECD countries and the regulatory environment became relatively encouraging of competition in international comparison.

From the late 1990s, however, New Zealand's reform period in transport markets effectively came to an end, whereas other OECD countries continued to improve the regulatory environment to encourage competition. As a result, New Zealand's regulatory advantage in transport regulation relative to other OECD countries began to fade. In the mid-2000s, as a result of increased direct government involvement in the air and rail sectors, the OECD assesses that the stance of regulation in New Zealand deteriorated. Towards the end of the 2000s, the OECD assessed transport regulation in New Zealand to be around average across OECD countries and significantly more restrictive of competition than in Australia.

Figure 3.4 An international comparison of indicators of transport regulation



Source: OECD

Notes:

1. The scale of the OECD indicators of regulation in transport sectors is 0-6 from the least to most restrictive of competition.
2. Indicators of transport regulation cover road (price and entry regulation where applicable), rail (entry regulation, public ownership, market structure and vertical integration) and airlines (entry regulation and public ownership). See Conway & Nicoletti (2006) for details.

3.3 Productivity and performance comparisons and trends

This section assesses the productivity and performance of the domestic leg of New Zealand's international freight chain, including road, rail, ports, airports, and border control and security.

The performance assessment must be treated with caution for a number of reasons:

- There are significant measurement difficulties due to limited availability of data.¹⁵
- There are few performance measures available for some important freight activities, such as the handling of non-container cargo at ports.
- Many measures of performance cover only one aspect of a sector's performance. For example, port performance measures of the amount of cargo moved per hour are useful measures of speed, but need

¹⁴ These indicators are a subset of the OECD's 'ETCR indicators', which assess regulatory conditions in energy, transport and communications sectors. See Conway and Nicoletti (2006) for details.

¹⁵ For example, it is difficult to obtain accurate and robust data for industry-level hours worked in New Zealand; Purchasing Power Parities (PPPs) are inaccurate at an industry level; and total economy PPPs are not technically appropriate to use, making cross-country comparisons difficult.

to be balanced against other performance requirements such as minimising cargo damage and minimising environmental pollution.

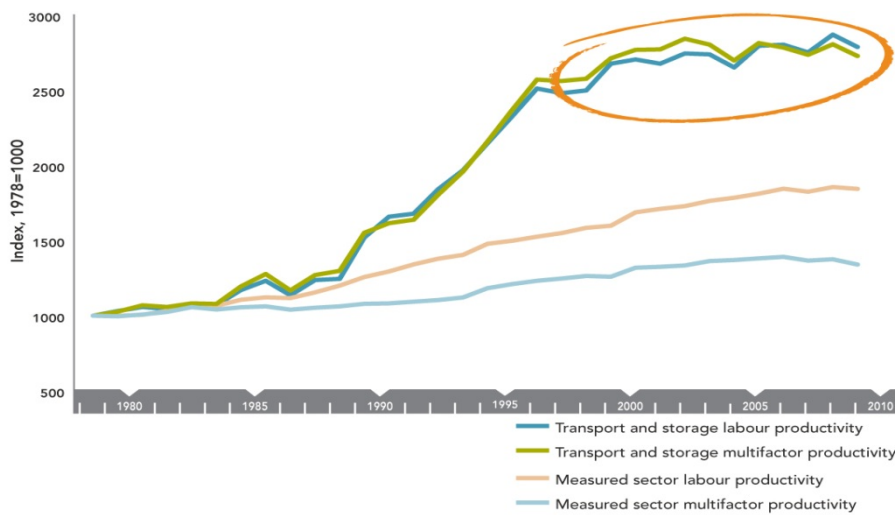
- The performance of individual businesses such as ports may differ in their performance depending on their natural attributes (eg, the availability of land and the depth of harbours).

These caveats emphasise that a performance measure should not be viewed in isolation. However, the Commission considers that a broad and informative picture of freight productivity and performance emerges when the available performance measures are considered as a whole.

Productivity growth was high in the 1990s but has since slowed

Productivity growth in New Zealand’s transport and storage industry was high in the 1990s, broadly coinciding with the period of rapid reform in the sector. However, the productivity performance of the sector has since slowed considerably.¹⁶ Compared to the rest of the economy, the transport and storage sector was a stand-out performer in the 1990s, but has subsequently been more in line with a generally poor productivity performance economy-wide (Figure 3.5) (productivity terms are defined in Box 3.2).

Figure 3.5 New Zealand transport and storage industry productivity growth compared to measured sector (1978=1000)



Source: Statistics New Zealand

Box 3.2 Productivity and measured sector definitions

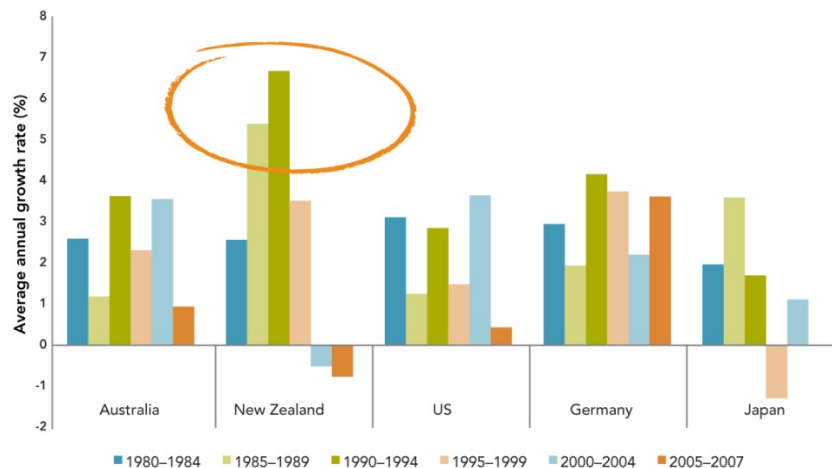
Measure	Description
Labour productivity	A measure of output per labour hour.
Multi-factor productivity	The amount of output produced that cannot be attributed to labour or capital input. This is productivity due to factors such as advances in knowledge, improvements in management, or production techniques.
Capital productivity	A measure of output per unit of capital input. A measure of ‘machine hour’ of capital can be used as capital input if available (for example, the number of containers moved per crane per hour).
Measured sector	The measured sector covers 80% of the economy and excludes industries where value added is hard to measure. Industries excluded are: government administration; defence; health; education; and ownership of owner-occupied houses. Industries included are: agriculture, forestry, and fishing;

¹⁶ The transport and storage industry is the most relevant ANZSIC06 industry for international freight. It includes road transport; rail transport; water transport; air and space transport; services to transport (including stevedoring and port operators); and storage. It includes international and domestic freight and passenger services. Personal road use (ie, use of private cars etc.) is not included.

manufacturing; electricity, gas, and water supply; construction; wholesale trade; retail trade; accommodation, cafes, and restaurants; transport and storage; communication services; finance and insurance; property services; business services; cultural and recreational services; and personal and other community services.

Given data limitations, cross-country productivity comparisons at the industry level need to be interpreted with considerable caution. With this caveat in mind, labour productivity growth in New Zealand's transport and storage sector appears to have been relatively strong in international comparison up until the end of the 1990s, but has since lagged considerably (Figure 3.6). Cross-country data on productivity *levels*, which are prone to even greater measurement difficulties, suggest that the transport and storage sector is significantly less productive in New Zealand than in comparator countries. For example, unofficial estimates put the level of labour productivity in New Zealand's transport and storage industry in the period 2001–2006 at 76% of that in Australia, down from 81% in the period 1995–2000 (New Zealand Institute of Economic Research, 2011). Multi-factor productivity in the New Zealand transport and storage industry is estimated to be 80% of that in the UK (Mason and Osborne, 2007).

Figure 3.6 Transport and storage labour productivity growth for selected countries: average annual growth rate for 5-year periods 1980-2007



Source: Statistics New Zealand; EU KLEMs (Capital-Labour-Energy-Materials-Services); Australian Bureau of Statistics; Productivity Commission calculations

Notes:

1. Australian Bureau of Statistics data (available from 1986) is used for Australia for the period 2005–2007 due to substantive discrepancies with EU KLEMs in that period only.

F3.1

Productivity growth in New Zealand's transport and storage industry increased dramatically in the 1990s, but has since slowed considerably. Since 2000 it has been substantially slower than in Australia, the US and Germany.

The Commission assessed the productivity of domestic freight components in a variety of ways

Assessing the productivity performance of the domestic components of the international freight chain is complicated by a lack of 'conventional' productivity measures (value added per unit of labour/capital) at a 'component' level, such as the ports, rail etc. The Commission has used a range of data and information sources to provide a partial picture of the productivity performance of the domestic components of the logistics chain.

'Proxy' measures that are often used internationally in this context include the average number of containers handled per labour hour at a port. Some caution is needed in interpreting these partial productivity

measures given that they capture only part of the total picture.¹⁷ However, these types of problems exist to some extent with conventional productivity measures and no one measure is ideal. As long as the limitations are understood, partial measures can still provide insight into the performance of the components of the logistics supply chain and indicate where productivity could be improved. In the interests of simplicity, in the rest of this section will refer to these proxy productivity measures as productivity measures.

New Zealand ports compare well with Australia but performance varies between ports

Container productivity

Recent data collected by the Ministry of Transport suggests that the performance of New Zealand's container ports is no less and possibly better than ports in Australia. However, within New Zealand there is notable variation between the ports.

In February 2011, the Ministry of Transport secured the agreement of six New Zealand ports to supply the productivity information outlined in Table 3.4. These ports have supplied the measures quarterly from 2009 (Ministry of Transport, 2011a).

Table 3.4 Measures of port performance

Measure	Definition
Crane rate	The number of containers a dockside <u>crane</u> moves on or off a container ship in an hour (not including time when the ship is alongside the wharf but not being worked). A measure of how efficiently the crane (capital) is used, which will be significantly influenced by how effectively the overall port operation is organised and operated.
Ship rate	The number of containers moved on or off a <u>ship</u> in an hour. A broader measure, but one that does not take account of how much resource is being used – eg, working a ship with two cranes rather than one will result in more containers being moved per hour, but possibly not twice as many.
Vessel rate	The number of containers moved on and off a container ship in an hour of labour. A measure focused on the productivity of labour – which depends in part on the machinery (eg, cranes) being used.

Notes:

1. The Ministry of Transport notes that its measures of crane rate, vessel rate, and ship rate have been agreed between participating ports, and are based on measurements used in Australia. Collectively they provide a useful indication of productivity looking at the rate at which containers are loaded and discharged from ships. However, the measures are not intended to provide a complete picture of port productivity – for example, they do not take into account subsequent handling within the port.
2. An important drawback of these measures is that they exclude 'idle time'; hence a port that receives few ships can record high productivity.

There is considerable variation across New Zealand ports in ship and vessel rates whereas crane rates are more consistent. Tauranga scores highest across all three measures; Auckland, Lyttelton, Otago are a step lower; while Wellington and Napier are at the lower end (Figure 3.7). Relatively greater variation in ship and vessel rates, compared with crane rates, points to differences in the overall level of operational performance across the ports, as distinct from the technical efficiency with which they operate their cranes.¹⁸

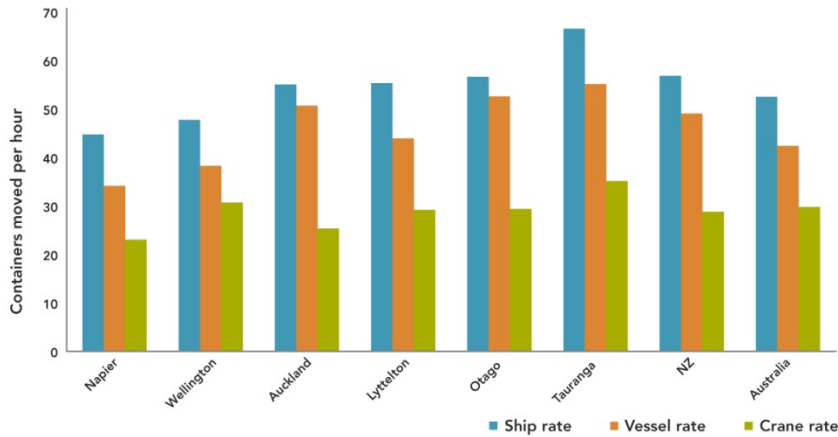
On average over 2009–2011, vessel and ship rates in New Zealand ports were generally higher than in Australian ports (with Wellington and Napier being a little below). Crane rates were broadly in line with the

¹⁷ For example, Port A may be capital-intensive and Port B labour-intensive, in which case using a measure of capital productivity (eg, volume loaded per crane) might misleadingly show Port B to be more productive. In this example, if Port B were to replace labour with capital, its capital productivity would diminish whereas overall container handling efficiency would likely increase. Alternatively, an airport that outsources labour-intensive activities may report misleadingly high levels of labour productivity, at least if the labour provided by the contracted firm is not counted as labour input.

¹⁸ Differences in crane rates may also reflect the number of cranes available – for example, Wellington, with only two cranes, has higher crane rates than Auckland, which has five cranes. However, Wellington has lower ship and vessel rates.

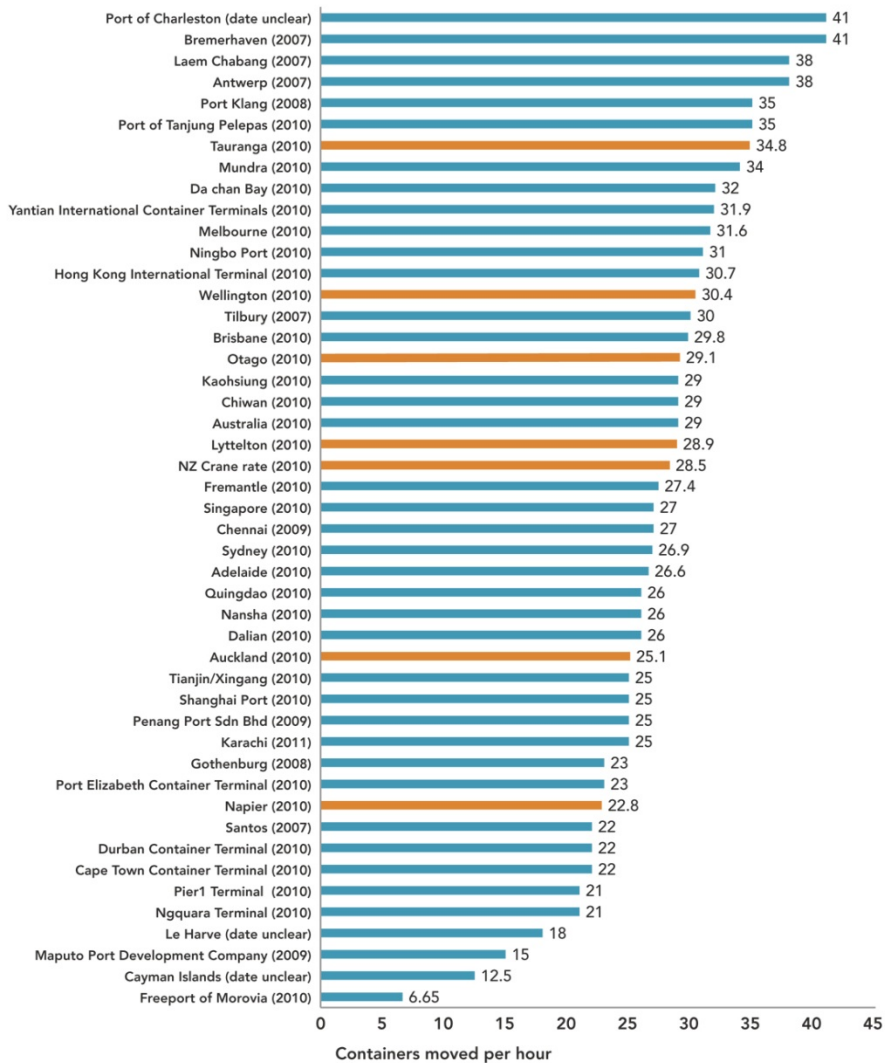
Australian average, except for Napier and Auckland which are significantly below (Figure 3.8). In a broader international comparison, crane rates in Australian ports are about 'middle of the pack', indicating that New Zealand ports are also operating at a margin below world best practice.

Figure 3.7 Average container productivity across six New Zealand ports and Australia, 2010



Source: Ministry of Transport (2011a)

Figure 3.8 Crane rates at selected international ports: 2007-2011



Source: Ministry of Transport (2011a)

Notes:

1. The data in this graph are from a range of sources. There may be inconsistencies in how container productivity has been calculated, or the reliability of the data.
2. These crane rates do not distinguish between the types of crane that are used. For instance, Port of Napier has noted that it is the only one of the New Zealand ports in this table to use mobile harbour cranes, while the other New Zealand ports use gantry or

quay cranes. The port notes that the capital cost of mobile harbour cranes is lower than gantry cranes. In relation to return on capital, the port points out that Napier is the best-performing port, as indicated by the EVA figures in Table 3.10 of this chapter (Port of Napier, sub. DR93).

There are caveats that must be kept in mind in interpreting these results:

- The indicators only account for how efficient the port is when ships are in port and take no account of port utilisation. Thus, a port that has few ship visits can score well, even though its capital (cranes, wharves, etc.) and labour force are relatively idle much of the time. (Flexible labour arrangements that enable labour to be hired only when needed can help overcome this).
- It would also be useful if yard utilisation and other 'landside' indicators, as published by Australia's Bureau of Infrastructure, Transport and Regional Economics (BITRE) for Auckland and Tauranga (Table 3.5), were available for New Zealand ports.
- Container productivity may be affected by the order in which ships call at New Zealand ports. As Port of Napier notes:

A first and last load port in New Zealand has the distinct advantage in that the majority of cargo discharged at the first load port (being primarily imports) and loaded at the last load port (being primarily exports) is exchanged from or to locations above deck. Crane drivers have full visibility and importantly do not have to contend with many, if any removal and subsequent reinstatement of hatch lids (which provide access to beneath deck holds).

Port of Napier, sub. DR93, p. 3

- Ports and shipping lines make trade-offs between price and speed, and this trade-off is not captured by a measure of speed of operations such as containers loaded per hour (Port Companies of New Zealand, sub. DR90, p. 2).

Table 3.5 Other port performance indicators for selected ports: 2006-2008

Port	Yard utilisation (container throughput per gross hectare), 2006–2007	Vessel turnaround times (hours), 2008	Container throughput per berth metre, 2006–2007
Auckland	12,046	36.8	568
Tauranga	10,664	31.2	777
Overseas mean	26,683	26.4	945

Source: BITRE, 2009; New Zealand Institute of Economic Research, 2010a; Rockpoint, 2010

F3.2

Available indicators suggest that New Zealand's container port performance is no less and possibly better than in Australia. However, there is notable variation between New Zealand ports, with Tauranga being the strongest performer.

There is a need for non-container productivity measures

The indicators used above are all based on container traffic, but New Zealand ports service a mix of containerised and other freight, and some ports only handle specialised bulk cargo (Bluff, Northport and Picton).

Reliable performance indicators for non-containerised freight are not available. This is partly because of the variety of performance measures that would be required. Different non-containerised freight products require different handling equipment and port processes, and different product groups are likely to require their own productivity measures. The productivity of ports in handling some non-containerised freight also depends on the quality of the equipment on board the ship.

Despite the difficulties, the Commission considers that such measures would be worth developing for the most commonly transported non-containerised products (eg, logs and bulk liquids such as oil). As noted by the Lyttelton Port of Christchurch, measures of non-containerised freight are important in assessing New Zealand's port performance:

The large differences in the operating, financial and commercial drivers of New Zealand ports results in the requirement for a wide ranging analysis of financial and operating performance rather than a concentration on one measure of productivity for container port operations, which are only a section of the total cargo handled by New Zealand ports.

Lyttelton Port of Christchurch, sub. DR80, p. 2

Submissions by the Port Companies of New Zealand (sub. DR90), the Port of Napier (sub. 10) and the Northland Port Corporation (sub. DR70) expressed similar views.

Fourgeaud (2000) comments on how to measure non-container performance and provides examples of performance benchmarks for different products. Table 3.6 summarises this work.

Table 3.6 Performance benchmarks for handling some forms of non-containerised freight

Cargo category	International examples of performance benchmarks	General comments
<p>Break-bulk</p> <p>Cargo of a peculiar mass or shape that is difficult to pack in containers – eg, cargo packed in bags, boxes or drums</p>	<p>Logs</p> <p>Logs up to 6-8 tons, handled by hydraulic clamps: 120 to 160 tons/hour/crane.</p> <p>Logs handled with slings; less than 100 tons/hour; only in daylight</p> <p>(Note: This example from Fourgeaud's paper applies to 'exotic wood')</p>	<p>Other break-bulk cargo</p> <p>Specialized cargoes like paper, frozen meat, fish or fruits should be studied separately, according to their packing requirements and to the type of ship and handling equipment.</p> <p>Most commodities in big bags, pre-slung or pre-palletized loads or pallets, nets can be handled with a crane and can use a crane rate productivity measure.</p>
<p>'Dry' bulk</p> <p>Dry goods shipped loose in the hold of a ship – eg, coal or cement</p>	<p>Agricultural products and fertilisers</p> <p>100-120 tons per hour per crane for small bulk-carriers and 1100 tons per hour for larger ships and elevator machinery</p> <p>Coal</p> <p>Coal export products usually loaded with conveyors; 1000 to 2000 tons per hour or more.</p> <p>Ore and coal imports are handled with large gantry cranes geared with very large grabs: up to 1000 tons per hour per gantry crane or with special devices.</p>	<p>Agricultural products and fertilisers</p> <p>Agricultural export products and fertilisers are handled with conveyors whenever possible.</p> <p>Other dry bulk cargo</p> <p>Handling performances for dry bulk cargo vary depending on ship size, port equipment, product characteristics (density, brittleness, quality-control) and environmental and safety considerations.</p>
<p>'Liquid' bulk</p> <p>Shipped in unpackaged form in hold of a ship – eg, oil or liquid natural gas</p>	<p>Liquids</p> <p>300 to 1000 cubic metres per hour (up to 10,000 cubic metres per hour and more for very large tankers)</p>	<p>Performance drivers</p> <p>Generally, unloading performances depend on the size of the ship which provides pumps and energy. Performances also depend on the liquid's viscosity, temperature, and on safety regulations, for hazardous products.</p>

Source: Fourgeaud (2000)

A useful initial non-container performance measure would be a measure of log handling at ports. Forestry products accounted for 9.8% of the value of New Zealand total merchandise exports in 2011 (Ministry of Agriculture and Forestry, 2012). These products tend to be handled by the port that is closest to the point of harvesting. Northport, Port of Tauranga, CentrePort and Port Otago all handle significant volumes of logs (see Figure 3.3). A standardised performance measure would enable shippers to compare the performance of log-handling ports.

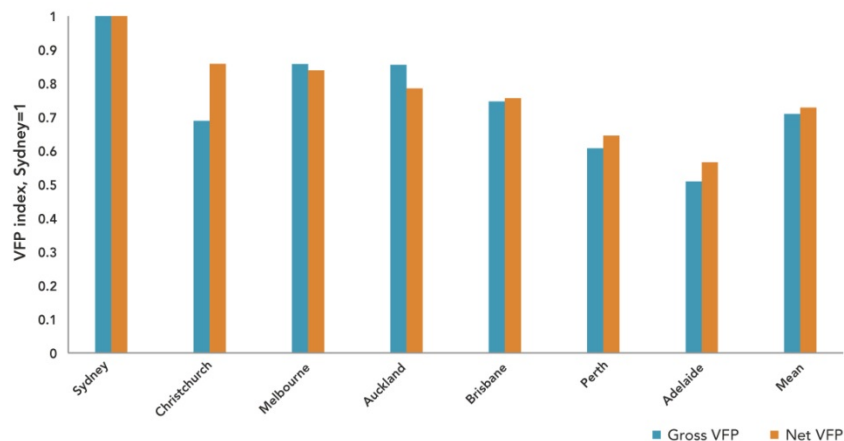
R3.1

Alongside container productivity measures, the Ministry of Transport should measure and publish the productivity of New Zealand ports in handling logs and other significant non-containerised exports and imports.

Auckland Airport appears to have relatively high productivity

Available international benchmarking reports of airports unfortunately do not separate freight and passengers, and only provide partial measures of productivity. Freight is generally a small part of an airport's operations relative to its passenger business. As a result, not a lot can be said about the efficiency of freight operations at New Zealand's airports. Partial indicators are available from the Air Transport Research Society (ATRS), which benchmarks 156 airports including Auckland, Wellington and Christchurch (Air Transport Research Society, 2011). The ATRS's key performance indicator is Variable Factor Productivity (VFP).¹⁹ On this measure, Auckland, which handles by far the majority of New Zealand air freight, is a comparatively high performer (Figure 3.9). After controlling for 'variables outside management control' (average aircraft size, percentage of international passengers, percentage air cargo in total traffic), the ATRS also rates Christchurch as a relatively strong performer.

Figure 3.9 Gross VFP vs. residual (net) VFP for selected airports: 2009



Source: Air Transport Research Society (2011)

Notes:

1. Sydney = 1.0.
2. Net VFP controls for factors beyond managerial control such as average aircraft size, percentage of international passengers and percentage air cargo in total traffic.

Another indicator provided by ATRS is Work Load Unit (WLU) per employee. On this measure, Auckland rated above the average for the Asia Pacific region in 2009, and Christchurch about average (Table 3.7). Both airports, in particular Auckland, have achieved above average productivity growth on this measure over the past decade.

¹⁹ VFP is essentially the ratio of aggregate output (aircraft movement, passengers, cargo, non-aeronautical revenues) index divided by aggregate variable input index, namely labour and soft cost input (total non-labour variable inputs). Total Factor Productivity (TFP) is not possible to compare due to capital input cost accounting problems.

Table 3.7 Work Load Unit (000s) per employee for airports in the Asia Pacific region

Airport	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average annual % change
Christchurch	31	30	32	35	37	34	33	35	37	2.2%
Auckland	35	41	43	46	48	50	49	51	47	3.6%
Sydney	64	70	75	109	120	122	120	123	127	8.9%
Singapore	29	35	31	35	33	33	31	31	43	5.1%
Kuala Lumpur	12	14	18	19	19	20	21	22	23	8.5%
Mean of the wider Asia Pacific region	34	30	30	35	37	39	39	38	38	1.4%

Source: Air Transport Research Society (2011); Productivity Commission

Notes:

1. WLU combines passenger and cargo traffic volume. One WLU is defined as one passenger or 100kg of cargo. In 2007, of Christchurch's 5,744,000 WLU total, 5,485,000 was passengers and 259,000 was cargo (4% cargo). Of Auckland's 14,600,341 WLU total, 12,355,000 was passengers and 2,245,150 was cargo (15% cargo).

An important caveat to this indicator is that airport workloads are measured per person employed by the airport. New Zealand airports do not directly employ cargo handlers – this service is performed by cargo terminal operators that rent space and facilities from airports. The indicator provides information about the productivity of the wider airport operation.

F3.3

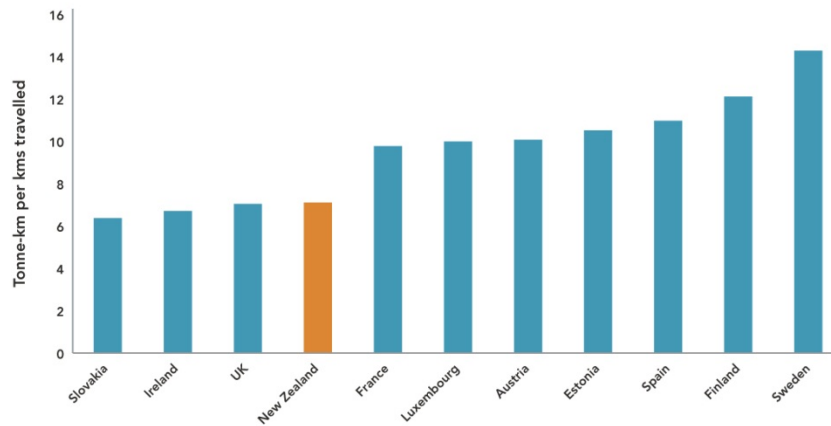
There is little information about the productivity of freight handling at airports. Auckland Airport's overall productivity (passenger and freight) compares favourably with other Asian and Pacific airports, while Christchurch is about average.

New Zealand has relatively low vehicle loads

The domestic leg is an important component of the international freight logistics chain. In particular, road, rail and/or coastal shipping all add to the overall costs of getting exports/imports to/from the customer/supplier.

There is limited internationally comparable productivity data for New Zealand's road freight industry.²⁰ However, one partial indicator is the 'average weight carried by heavy vehicles'. This measure indicates that New Zealand has low loads per vehicle compared to other countries (Figure 3.10), and that these have increased only marginally since the late 1990s (from 6.5 tonnes to roughly 7 tonnes in 2010) (Ministry of Transport, 2011i). The recent relaxation of weight restrictions for High Productivity Motor Vehicles provides an opportunity to increase average load weights, but this is likely to have only a minor impact under current arrangements (discussed in section 13.1).

²⁰ The New Zealand Transport Agency (NZTA) has recently commissioned Covex to assess international road benchmarking indicators and determine whether it is feasible to collect the comparative information in New Zealand.

Figure 3.10 Road freight: average load (tonnes)

Source: Eurostat; Ministry of Transport (2011i)

Notes:

1. This measure excludes international journeys and includes 'empty runnings'.

The New Zealand Transport Agency's (NZTA) submission comments that the low average loads are a result of trucks travelling empty on one leg of a return journey (New Zealand Transport Agency, sub. DR100). The NZTA suggests that improved freight logistics and transport networks could reduce the number of empty trucks on the road. Chapter 5 discusses other ways of minimising empty shipping containers.

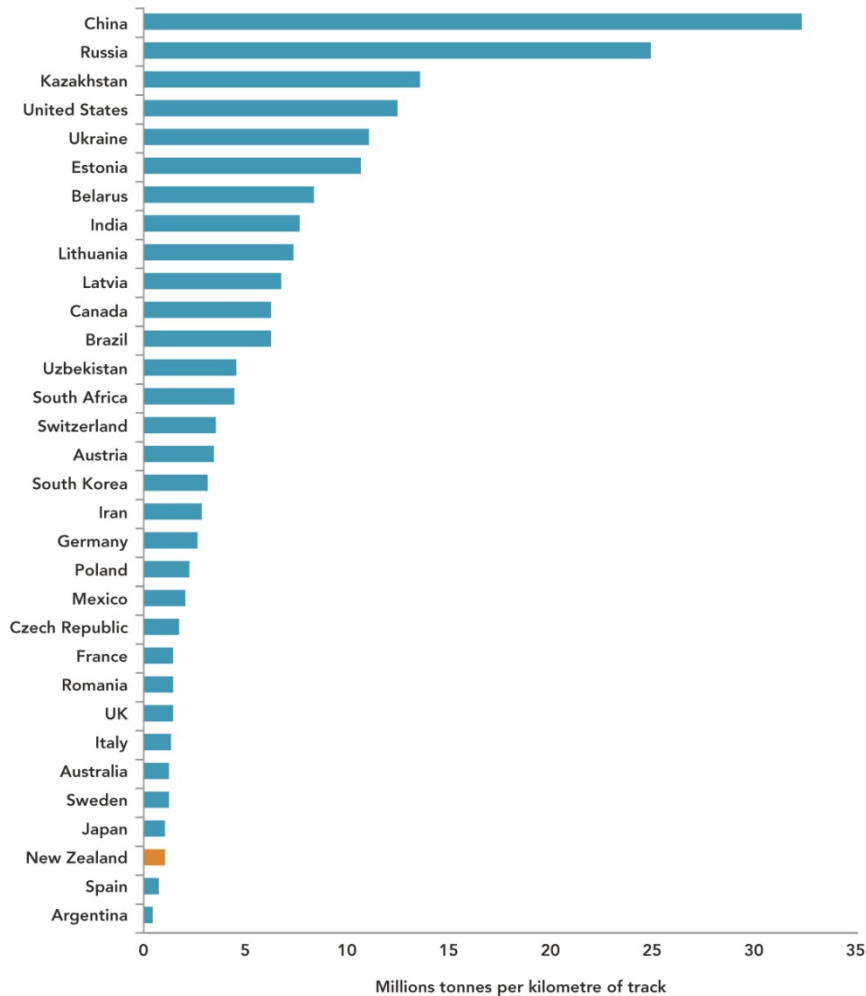
F3.4

New Zealand has low average loads for road freight compared to other countries.

New Zealand's rail network utilisation is low by international standards

New Zealand's utilisation of its rail network, which provides an indicator of rail freight productivity, is low by international standards (Figure 3.11). Contributing factors are New Zealand's low population density, geography (eg, main centres located close to ports, and difficult terrain), competition from other transport modes, and technical and operational limitations of the rail infrastructure (Heatley, 2009). And, as for trucks in the case of road freight, New Zealand has 'small' trains with a maximum axle load of 18 tonnes, compared to the world standard of 25 tonnes (Rockpoint, 2009).

Figure 3.11 Rail freight density: international comparison 2003-2008



Source: Heatley (2009)

Notes:

1. Freight density is the average number of tonnes transported per kilometre of track per year.
2. Data from years in the range 2003 to 2008 was used in the compilation of this graph, which may lead to some inaccuracies.

F3.5

Compared internationally, New Zealand has low volumes of freight per kilometre of rail and low maximum axle loads for its trains.

Biosecurity and customs services perform well on some measures

It is difficult to assess the productivity performance of the biosecurity and customs component of the logistics chain, given that it is difficult to quantify the outputs of the agencies involved – Ministry of Agriculture and Forestry (MAF) and New Zealand Customs Service (NZCS). This is because the services provide both public and private benefits and counterfactuals are not easily estimated (ie, it is difficult to know how many 'preventions' have occurred and how to quantify the benefit of these preventions). Biosecurity and customs services are discussed in more detail in Chapter 7.

A partial measure of the 'efficiency' of this component of the logistics chain is available within the *Doing Business* indicators compiled by the World Bank. Specifically, these indicators measure how long it takes to clear customs and the overall efficiency of this clearance in each country (see section 4.2, Table 4.1). MAF and NZCS also produce detailed performance measures based on surveys of stakeholders (Ministry of Agriculture and Forestry, 2011b; New Zealand Customs Service, 2011). Overall, NZCS seems to compare favourably internationally, but has shown no improvement in customs efficiency between 2006 and 2009 (Table 3.8). Stakeholders are generally satisfied with the overall service produced by MAF (Ministry of Agriculture and Forestry, 2011b).

Table 3.8 Logistics Performance Index

(1-5, higher = better)

	New Zealand 2006	New Zealand 2009	Australia 2006	Australia 2009	All countries average 2006	All countries average 2009
Efficiency of customs clearance process	4	4	4	4	2.6	2.6

Source: World Bank and International Finance Corporation (2011); Productivity Commission

Notes:

1. Data are from Logistics Performance Index surveys conducted by the World Bank. The 2009 round of surveys covered more than 5000 country assessments by nearly 1000 international freight forwarders. Respondents evaluated the efficiency of customs clearance processes (ie, speed, simplicity and predictability of formalities), on a rating ranging from 1 (very low) to 5 (very high).

3.4 Financial performance of New Zealand ports

Economic Value Added analysis is a way of measuring returns to capital

The performance of the New Zealand port sector can be further assessed using the technique of Economic Value Added²¹ (EVA[®]).^{22,23} In essence, EVA assesses the difference between the operating return of a firm and its weighted cost of capital. This attempts to show whether returns are sufficient to justify investment in the company, compared with an alternative use of the funds. That is, a positive EVA suggests that a company has more than covered its cost of capital, whereas a negative EVA suggests that those resources could have been better employed elsewhere.

The Commission investigated the EVA performance of ports because of the measure's potential to prompt important questions and discussion about how efficiently capital has been invested in the port sector. The method takes information from standard company accounts, and adjusts it in order to present a like-for-like comparison of the return on total assets (those funded by debt as well as by equity) deployed at each port. A consistent set of EVA measures supplements productivity and other performance measures and helps to evaluate both the sector as whole and individual ports.

The Council of Trade Unions strongly criticised the Commission's EVA analysis of ports in its draft report. Most of the criticism related to the valuation of assets:

The problems with asset valuation, however, are fundamental and seem to have escaped the Commission's notice.

EVA was developed in the context of US GAAP (Generally Accepted Accounting Principles) under which assets are carried on a company's books at historic cost and revaluations are not permitted. This means that the asset values recorded in a company's "capital" in the denominator of the EVA ratio are anchored to actual investment expenditures undertaken over the course of the company's history, so that the flow of current earnings secured by shareholders is related to past capital commitments, and can meaningfully be compared with the alternative flow of income that might have been secured by committing the same funds over the same period of history to alternative investment opportunities.

New Zealand's GAAP differs starkly from that in the US with regard to asset revaluations, which are allowed under NZ IFRS [International Financial Reporting Standards] and its predecessors. Under NZ IFRS companies are given the option of recording the value of fixed assets at either "cost" or "fair value". The "cost" option is designed to allow New Zealand balance sheets to be presented in a way

²¹ The term should not be confused with a firm's 'value added' which means the value added by a firm's capital and labour to the intermediate inputs that it purchases. The firm's value added in this sense is measured by subtracting the cost of these inputs from its sales revenue and is the base for GST, which is a tax on value added.

²² A registered trademark of Stern Stewart & Co.

²³ Previous analysis of the port sector using EVA has been done by NZIER (New Zealand Institute for Economic Research, 2010) and KPMG.

that is consistent with US GAAP; the “fair value” option enables companies to write up the value of assets to what is estimated to be their market value.

...

As one New Zealand commentator has noted, the fair-value model will be chosen over the cost model “if the intention is to present results in a less favourable light”, for the obvious reason that the denominator in all rate-of-return calculations is thereby inflated.

New Zealand Council of Trade Unions, sub. DR101, p. 10

The Commission’s draft report included the caveat that “rates of return are sensitive to asset valuations and these can be difficult and controversial to establish”. It based its EVA analysis on the assumption that the value of capital invested (ie, assets) in each port company was that recorded by the company in its 2008 financial accounts,²⁴ the first prepared under IFRS 2007. While agreeing with the validity of the question of what returns a business has secured on actual investments, the Commission did not have access to the historical data needed to conduct such an analysis.

In addition, it is necessary to distinguish this question from another that is equally valid and interesting. The first question below is the one described in the CTU’s submission. The second is the alternative question.

- What rate of return has a business actually received on a given investment compared with possible alternative ways the funds could have been invested (where the return may include capital gains)?
- What return is a business receiving from its current enterprise compared with the return that could be achieved by disposing the assets of the enterprise and reinvesting the proceeds in the best alternative use?

The first question looks back over history. The second looks forward with an eye to appraising possible future alternative uses of the capital. It requires assets to be valued at their best alternative use (allowing for depreciation, reinstatement costs etc.).

A number of other caveats apply to EVA analysis.

1. EVA does not account for prospective earnings but only the actual returns to the business in the year being examined. So the EVA of a firm that is operating in a recession, or that has recently undertaken large investments that are yet to generate a return, will be biased downwards. This bias is noted by the Port Companies of New Zealand (Port Companies of New Zealand, sub. DR90).
2. A zero EVA percentage (suggesting the business is just covering its cost of capital) may not be consistent with a socially efficient allocation of capital if any of the input or output markets in which the business operates are not competitive, or the business is generating significant unpriced external effects (such as pollution). This was another point noted in the CTU’s submission (New Zealand Council of Trade Unions, sub. DR101).
3. If a large infrastructure investment such as a port and airport were liquidated and its realisable assets put to an alternative use, this would likely have material effects on surrounding business and property values. This reduces the usefulness of EVA in answering the question in the second bullet point above especially when the returns of interest are to the whole community and not simply to the business. Rather, in order to capture the complete range of effects on the community, a full social cost-benefit analysis would be warranted to assess the merit of the close-down option.
4. For good reasons, EVA analysis considers operating performance only.²⁵

²⁴ The Commission checked and found that there were no substantial revaluations of port assets over the years of the analysis, 2008-11. Removing these revaluations had no material effect on the reported results.

²⁵ In order to better reflect the ‘cash return’ on ‘cash invested’ in the business, the published accounting information for each entity has been adjusted by: (1) reversing items such as impairments, revaluations, one-off gains/losses, and amortisations to achieve ‘full cost accounting’; (2) reversing accrual accounting (eg, to record tax actually paid); (3) separating operating and financing (eg, by capitalising operating leases); and (4) separating operating from non-operating (eg, excluding associate, joint venture and share investments).

And specifically for the port companies in this analysis:

5. Because the business mix of each port company is different – varying over container trade, logs trade, cruise ship hosting, facilities for bulk oil and ferries, property investment, etc. – the financial analysis reflects the group of businesses specific to each port company.
6. The capital invested in each port company is deemed to be that based on the NZ IFRS 2007 financial accounts.

Submitters raised other concerns about the limitations of the Commission’s EVA analysis. For example, Port of Napier considers that the analysis does not account for the global financial crisis. It argues that the majority of New Zealand companies suffered a negative result in 2008 due to the global financial crisis and that the crisis may have affected the 2009 EVA result in a similar manner (Port of Napier, sub. DR93). This possibility is acknowledged in the first caveat above.

Port Companies of New Zealand argued that EVA performances may be good for investors but not necessarily for shippers. It considers that better EVA performances could possibly result in higher prices for shippers and less readily available services (Port Companies of New Zealand, sub. DR90). However, if port companies raised their EVAs through higher productivity and lower costs, port owners would be better off and shippers no worse off. If port productivity cannot be lifted, ports may need to raise their prices to recover the cost of capital for their investors. This would nevertheless be desirable for overall efficiency because shippers would receive a realistic signal about port costs.

EVA results

Results suggest that the port companies may not be recovering their cost of capital based on 2008 asset values. This raises questions about efficient use of capital, but also about asset values and the influence of timing factors on returns over 2008 to 2011.

Table 3.9 to Table 3.11 respectively present the estimated return on capital, the weighted average cost of capital, and the EVA results for six New Zealand port companies. From 2008 to 2011, most of the ports recorded negative EVAs – that is, their returns were less than the cost of capital over the period. However, the EVA of the ports has generally become less negative over the period, reflecting improved operating returns and a fall in the cost of capital. The Port of Napier recorded positive EVA for 2009-2011.

Table 3.9 Return on average operating capital (%) for selected New Zealand port companies

Company	2008	2009	2010	2011
Ports of Auckland	6.0%	3.3%	4.6%	6.0%
Port of Tauranga	5.3%	5.3%	5.6%	6.3%
Port of Napier ²	7.6%	9.9%	9.6%	8.7%
CentrePort	4.2%	3.2%	4.6%	5.2%
Lyttelton Port	6.7%	5.6%	5.9%	9.5%
Port Otago	5.5%	4.9%	5.9%	6.1%
Consolidated	5.6%	4.6%	5.4%	6.4%

Source: Port company annual financial reports; Ireland, Wallace & Associates Limited

Notes:

1. Returns are Net Operating Profit after Tax (NOPAT) as a % of average operating capital for each year.
2. The balance date is 30 September. For the purposes of the financial analysis the years have been advanced to align with other port companies’ June balance dates. For example, the actual year ending 30 September 2010 is assumed to be 2011. See the Port of Napier’s submission on the draft report for an alternative calculation of the Port’s EVA results, based on a 30 June balance date (sub. DR93).

Table 3.10 Weighted average cost of capital (%) for selected New Zealand port companies

Company	2008	2009	2010	2011
All ports	9.3%	8.9%	7.9%	7.9%

Source: Ireland, Wallace & Associates Limited

Notes:

1. A standard asset beta of 0.60 has been adopted in calculating the weighted average cost of capital. The beta coefficient is a relative measure of risk diversification that reflects the degree of movement of an asset's return in response to a change in the market return. The Commerce Commission has specified asset betas of 0.60, 0.44 and 0.34 for Airports, Gas Pipeline, and Transpower and Electricity Distribution Businesses respectively.

Table 3.11 EVA% results for selected New Zealand port companies

Company	2008	2009	2010	2011
Ports of Auckland	-3.3%	-5.6%	-3.3%	-1.9%
Port of Tauranga	-4.0%	-3.6%	-2.3%	-1.6%
Port of Napier ²	-1.7%	1.0%	1.7%	0.8%
CentrePort	-5.1%	-5.7%	-3.3%	-2.7%
Lyttelton Port ³	-2.6%	-3.3%	-2.0%	1.6%
Port Otago	-3.8%	-4.0%	-2.0%	-1.8%
Consolidated	-3.7%	-4.3%	-2.5%	-1.5%
Simple average	-3.4%	-3.5%	-1.9%	-0.9%

Source: Port company annual financial reports; Ireland, Wallace & Associates Limited

Notes:

1. EVA% is the return on average operating capital minus the weighted average cost of capital for each year.
2. The balance date is 30 September. For the purposes of the financial analysis the years have been advanced to align with other port companies' June balance dates. For example, the actual year ending 30 September 2010 is assumed to be 2011. See the Port of Napier's submission on the draft report for an alternative calculation of the Port's EVA results, based on a 30 June balance date (sub. DR93).
3. The EVA results for Lyttelton Port of Christchurch partly reflect insurance payouts related to earthquake damage.

To provide an indicative point of comparison for these results, the average EVA across six electricity distribution lines companies over the same time period is given in Table 3.12.²⁶ Applying the same weighted average cost of capital used in the case of the port companies indicates that the EVA for the electricity lines companies was positive from 2008-2011.²⁷ These significantly higher EVAs for lines companies compared with the ports raises some challenging but interesting questions. The Commission believes that port companies and their owners should seek to gain a better understanding of these results and what they may imply.

The value and interpretation of these EVA results is discussed in more detail in Chapter 10.

F3.6

The six port companies analysed by in the inquiry recorded mostly negative Economic Value Added (EVA) from 2008 to 2011, although there was a trend to less negative figures. This suggests that the port companies have not recovered their cost of capital based on their 2007 asset values.

²⁶ Like the port companies, the electricity distribution companies provide infrastructure services and have mixed public and private ownership. These common features provide some basis for a useful comparison.

²⁷ Note that this analysis assumes an asset beta of 0.6 for the electricity distribution companies, rather than the Commerce Commission-determined 0.34. Using the Commerce Commission asset beta would increase the EVA of the electricity lines companies.

Table 3.12 Return on average regulatory assets (capital) (%) – comparison with selected electricity distribution companies

	2008	2009	2010	2011
Six electricity distribution companies' EVA average	+2.0%	+1.4%	+1.8%	+3.4%
Six ports companies' EVA average	-3.4%	-3.5%	-1.9%	-0.9%

Source: Ireland, Wallace & Associates Limited

4 Freight transport costs

This chapter investigates the freight transport costs faced by New Zealand importers and exporters. It examines the drivers of these costs; how they have changed over time; and how they compare with freight transport costs in Australia. The chapter also provides an overview of the time taken for transporting New Zealand's imports and exports, and the associated costs.

Key points

- Ad valorem freight costs are the freight costs faced by New Zealand importers and exporters as a percentage of shipment value.
- Ad valorem sea freight costs have decreased over the last two decades, even after accounting for changes in the composition of trade and trading partners. Cost-reducing efficiency and technology improvements appear to have outweighed factors such as fuel price increases. Australia's ad valorem sea freight costs show a similar pattern.
- Adjusting for trade composition, ad valorem sea freight costs are estimated to be around 21% higher in New Zealand than Australia. Case studies indicate that the sea transport component of container freight costs is higher for routes in and out of Auckland compared with routes in and out of Sydney.
- Lower trade volumes create higher costs for New Zealand container shipping relative to Australia. These costs provide a plausible explanation for at least part of the significant differences in sea freight prices observed in the case studies.
- Ad valorem air freight costs decreased in the 1990s, but were flat or even slightly increasing in the 2000s, even after controlling for factors such as fuel price increases. Declines in Australia's ad valorem air freight costs also flattened off in the 2000s.
- New Zealand importers and exporters generally pay more for air freight as a percentage of shipment value than their Australian counterparts.
- However, case studies suggest that New Zealand importers and exporters pay less than their Australian counterparts for air freight on certain routes.
- The onshore components of New Zealand's air and sea freight costs, particularly port handling costs, compare favourably with Australia and other OECD countries. However, there remains room for improvement.

Freight costs are the freight transport costs faced by shippers. These costs can differ depending on how the shipper is organising the transport of goods. For shipments organised directly by shippers (eg, ship charters) it covers the total transport costs incurred. For shipments organised by freight forwarders, the freight cost will generally be the price charged by the freight forwarder to the shipper.

The freight transport costs faced by New Zealand exporters and importers are influenced by many factors. These can be split into direct and indirect drivers of freight costs. Direct drivers include:

- distance and journey time;
- characteristics of the product (eg, its value per kilogram and whether it requires refrigeration); and
- fuel prices.

Indirect drivers of freight costs are factors that potentially impact on market conditions and the efficiency of the market. Indirect drivers of freight costs include:²⁸

- the extent of logistics efficiencies (eg, through integrating international with domestic operations to maximise capacity utilisation);
- the extent of competition in the market;
- trade volumes, which enable scale and attract competition;
- the adequacy and efficiency of infrastructure (including ports, airports, road, and rail); and
- imbalances in the direction and composition of trade, which can result in under-utilised capacity on the inward or outward trip (eg, New Zealand requires more shipping containers for exports than imports).

Productivity improvements in freight service provision should be reflected in lower freight prices if there is sufficient competition. If not, the benefits of productivity gains are more likely to accrue to service providers and/or their employees.

Box 4.1 provides a description of the data and methodologies used in this chapter to assess freight costs.

Box 4.1 Freight costs: data sources and methodologies

This chapter uses two main sources of data to assess freight costs: data on ad valorem freight costs and actual cost information from case studies.

Ad valorem cost data from Statistics New Zealand

Section 4.1 uses Statistics New Zealand Overseas Merchandise Trade import data, which is obtained from import documents lodged with the New Zealand Customs Service. Both value for duty (VFD) and the cost including insurance and freight (CIF) are collected. This allows ad valorem freight costs, which are freight costs as a percentage of the value of the goods, to be calculated as the difference between CIF and VFD, divided by VFD (ie, $(\text{CIF}-\text{VFD})/\text{VFD}$).²⁹

The use of customs data as a basis for calculating freight costs is well established in economic literature (see, for example, Hummels, 2007b). The data comes from information provided by importers on customs forms, and questions have been raised about its accuracy. However, it is likely that any reporting errors are systematic over time, and therefore the broad trends in ad valorem freight costs presented in this chapter remain valid.

Statistics New Zealand does not collect equivalent data on New Zealand exports. Data on ad valorem freight costs of New Zealand exports to Australia and the US were obtained from customs import agencies in those countries.

Actual cost data from case studies

The case studies in section 4.2 have been designed to capture the typical freight costs faced by smaller importers and exporters in New Zealand and Australia. The results are subject to considerable uncertainties due to the small sample size and should be interpreted with caution.

Shipping lines and freight forwarders were asked for quotes for specified import and export consignments and routes. Six international shipping lines and four large freight forwarders were contacted for sea freight. The quotes reported are from between two and four shipping lines, as not all companies provided quotes for all routes. Five large freight forwarders were contacted for air freight prices, with three supplying quotes. The information presented in this section is based on the lowest of these quotes.

²⁸ For more detailed discussion of the determinants of freight costs for sea freight, see Ministry of Transport (2010b).

²⁹ An examination of shipment-level data suggests that insurance costs are, on average, a small proportion of the freight plus insurance component.

4.1 Ad valorem supply chain costs

Ad valorem costs are freight costs as a percentage of the value of goods

Ad valorem freight costs are the freight costs faced by New Zealand importers and exporters as a percentage of value of the goods.

Box 4.2 captures the definition of ad valorem freight costs for easy reference.

Box 4.2 Definition of ad valorem freight costs

The ad valorem freight costs for a particular good are:

$$\frac{\text{Freight costs for the good}}{\text{The value of the good}}$$

For example:

- If the cost of freight is **\$10 per unit** and the value of the good is **\$100 per unit**, the ad valorem freight cost is **10%**.
- If the cost of freight is **\$10 per unit** and the value of the good is **\$1000 per unit**, the ad valorem freight cost is **1%**.

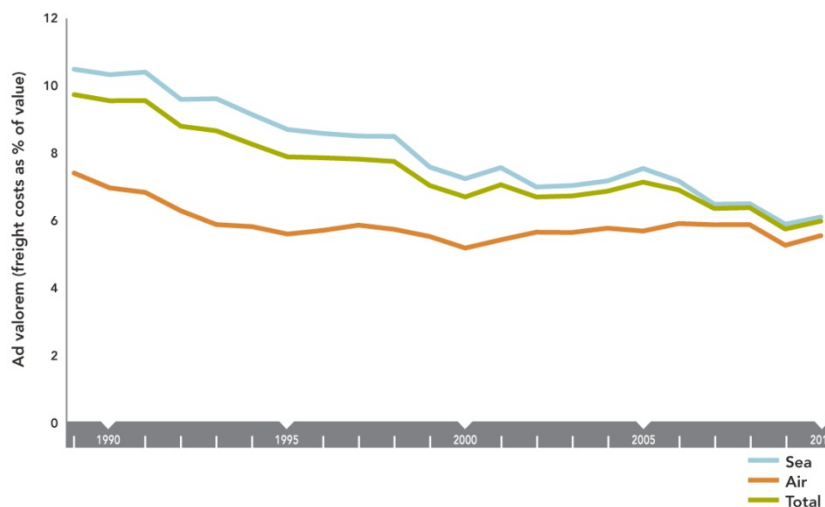
The same principle applies to ad valorem freight costs for all of a country's export or import goods. Ad valorem freight costs in this case are:

$$\frac{\text{Freight costs for all of the country's goods}}{\text{The value of all of the country's goods}}$$

Ad valorem sea and air freight costs for importers

Total ad valorem freight costs for New Zealand imports have fallen over the last 20 years, from about 10% in 1990 to 6% in 2010 (Figure 4.1). For sea freight, the decrease has been reasonably steady, although it slowed somewhat in the early 2000s. For air freight, costs fell over the 1990s but have flattened between 2000 and 2010.

Figure 4.1 Ad valorem freight costs for New Zealand imports: 1989-2010



Source: Productivity Commission calculations using Statistics New Zealand data

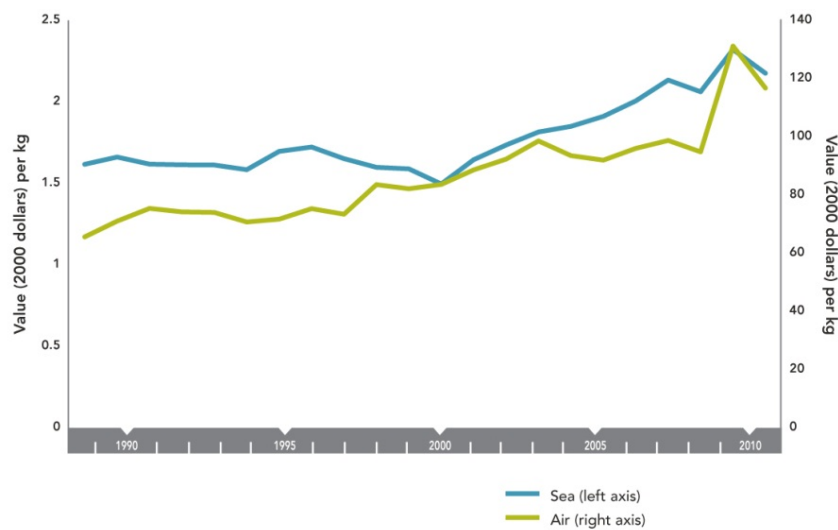
Ad valorem freight costs for air freight are lower than for sea freight given that air transport tends to be used for higher-value goods (Figure 4.2). This illustrates that it is difficult to compare ad valorem freight costs for different modes of transport, as these do not account for differences in the direct drivers of ad valorem costs, including the value per kilogram and the mix of products and trade partners. Similarly, it is

difficult to compare ad valorem freight costs for different points in time, because the differences may be a result of changes in product mixes, rather than changes in the cost of transport for the goods.

A shift in trade towards more proximate countries, or more transportable goods, can also reduce ad valorem freight costs even if freight costs on particular routes are unchanged (Hummels, 2007b). For example, overall ad valorem freight costs would fall if New Zealand shifted to importing more wine and less fruit (all else being equal), because ad valorem freight costs for wine tend to be lower than for fruit (Figure 4.3).

Similarly, the ad valorem cost of importing a particular good from the United States is more expensive than the ad valorem cost of importing the good from Australia (Figure 4.4). Ad valorem freight costs would thus tend to increase if New Zealand started importing more from the US and less from Australia.

Figure 4.2 Value of imports (per kilogram) by transport mode: 1989-2010

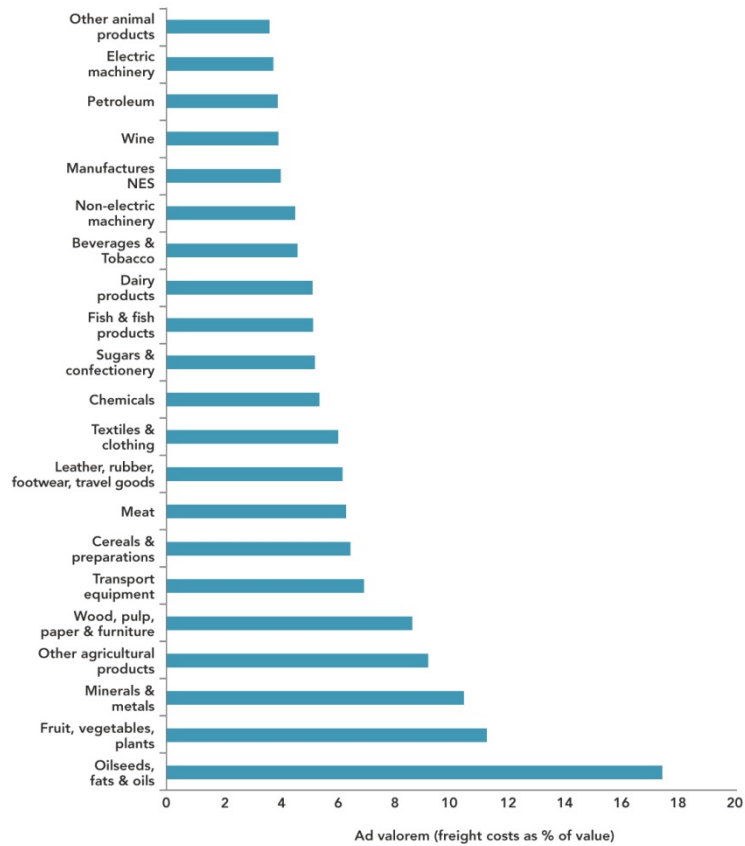


Source: Productivity Commission calculations using Statistics New Zealand data

Notes:

1. Value is VFD in 2000 dollars, deflated using Statistics New Zealand's import price deflator.

Figure 4.3 Import ad valorem freight costs by product type: 2010

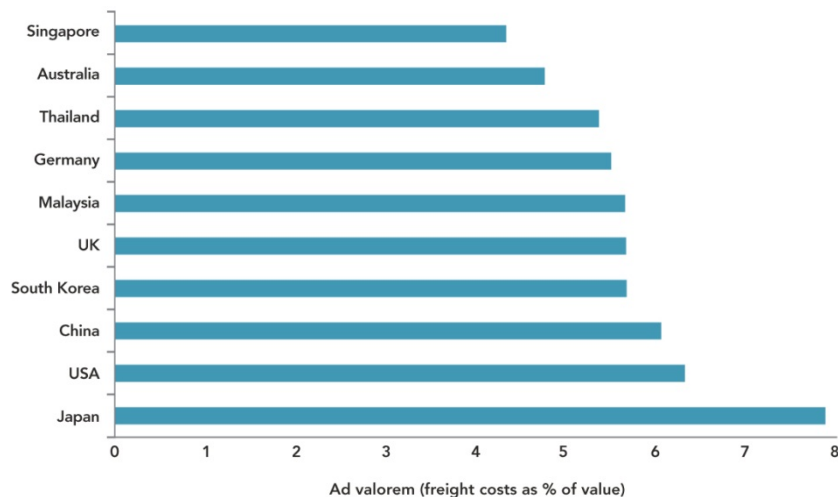


Source: Productivity Commission calculations using Statistics New Zealand data

Notes:

1. 'Manufactures NES' is 'Manufactured items not elsewhere specified'.

Figure 4.4 Import ad valorem freight costs by country of origin: 2010



Source: Productivity Commission calculations using Statistics New Zealand data

Notes:

1. The top ten countries by total value of New Zealand imports in 2010 are shown.

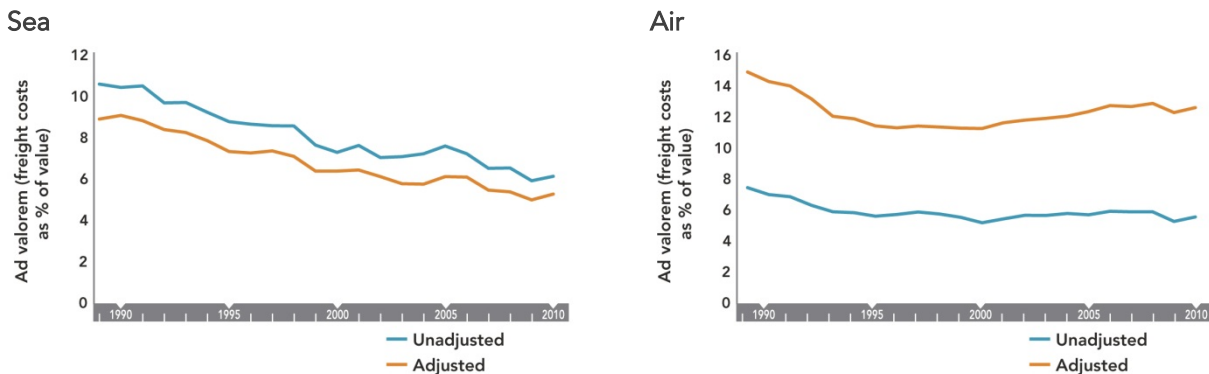
The Commission considered whether changes in ad valorem freight costs over time were a result of composition of goods and mix of trade partners, or other cost drivers such as market conditions and efficiencies within the freight logistics chain.³⁰

³⁰ This analysis follows the methodology used by Hummels (2007b).

To do this, the Commission used statistical techniques to control for changes in composition of goods and mix of trade partners over time (that is, to hold these drivers fixed). To do this, the Commission used regression analysis to construct 'adjusted' measures of ad valorem freight costs that reflect only the other drivers of freight costs.

The overall trend in sea and air freight is not materially altered by controlling for changes in the composition and source of imports (Figure 4.5). Even holding these drivers fixed, ad valorem sea freight costs have fallen over recent decades.

Figure 4.5 New Zealand import freight costs – unadjusted and adjusted ad valorem: 1989-2010



Source: Productivity Commission calculations using Statistics New Zealand data

Notes:

1. The unadjusted ad valorem rate is simply freight cost/import value. The adjusted ad valorem rate is derived from a regression that controls for changes in the mix of trade partners and products traded.
2. This figure needs to be interpreted with caution. The blue line (unadjusted ad valorem costs) reflects the actual costs that shippers pay for the types of goods that are traded at any point in time. The orange line (adjusted ad valorem costs) effectively holds the type of goods and other factors constant over time. The orange line therefore does not reflect the actual costs to shippers at any point in time.

The Commission undertook a second type of analysis to confirm whether this conclusion – that there is a reduction in ad valorem freight costs after holding certain cost drivers fixed – changes if the level of detail of the data and the level of sophistication of analysis are changed. This analysis is reported in Box 4.3.

Box 4.3 Shipment-level freight costs – what factors explain changes in import ad valorem freight costs?

The Commission's approach and results

The Commission assessed the impact of changes in the characteristics of import shipments and other direct drivers of freight costs (such as oil prices) on variation in ad valorem freight costs over time. The results of this work confirm that the general patterns in ad valorem freight costs outlined in this section (based on more aggregated data and simpler modelling techniques) are the same, even when a more detailed data set and more sophisticated modelling techniques are used.

Data used

The Commission used shipment-level import data from the Overseas Merchandise Trade component of the prototype Longitudinal Business Database (LBD). In particular, it modelled freight costs using a data set of over 13 million import shipments. This modelling exercise used data from the period 1992 to 2010, and took account of additional factors that may directly impact on freight costs (such as fuel prices).

Technical explanation of the Commission's method

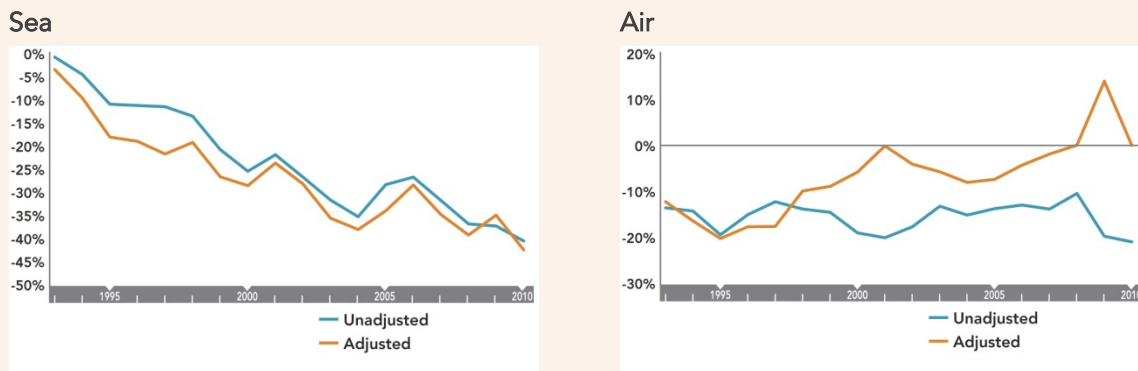
Equations of the following form were estimated separately for sea and air using value-weighted ordinary least squares.

$$\ln\left(\frac{F_{sit}}{V_{sit}}\right) = \beta^Z \mathbf{Z}_{sit} + \delta_{1993} + \dots + \delta_{2010} + \varepsilon_{sit}$$

The log of ad valorem freight costs for each shipment (s), importer (i) and month (t) was regressed against a set of covariates (\mathbf{Z}) and year dummies (δ). The year dummies capture the component of freight costs that is not explained by the covariates, including, changes in import freight costs that reflect indirect drivers such as market conditions and efficiencies within the freight logistics chain.

A regression that does not include the covariates (\mathbf{Z}) and simply regresses the log of freight costs on year dummies indicates that both air and sea freight ad valorem costs are lower in 2010 than 1992 (Figure 4.6). A fixed effect model where goods and trade route dummies are interacted, and time-varying factors such as oil prices are controlled for, shows that sea freight costs have decreased relative to 1992.³¹ This suggests that the decline in sea freight costs over time is not due to changes in factors such as the composition of imports. However, after controlling for compositional effects, air freight costs are found to have increased from around the end of the 1990s.

Figure 4.6 Average import ad valorem freight costs relative to 1992, if the composition of goods and other factors are held constant



Source: Productivity Commission calculations using Statistics New Zealand's prototype Longitudinal Business Database

In this model, about 79% of the variation in freight costs can be explained by a small set of observable characteristics of the good being shipped and the route taken. Looking at the direct drivers of ad valorem freight costs, as expected, ad valorem freight costs are higher (holding other variables constant):

- for higher-value goods;
- for heavier goods;
- when goods come from more distant countries; or
- when oil prices are higher.

In addition, ad valorem freight costs are higher:

- For New Zealand firms that import infrequently. This suggests that larger importers can negotiate lower transport costs and have more incentive to invest in supply chain efficiencies.
- When firms import from ports that are not the primary port or when the load port country is not in the export country.³² These arrangements are likely to result in additional freight costs that get passed on to the importer.

³¹ Several other model specifications were also examined and yielded broadly similar results.

³² There are up to three different countries associated with the source of a traded good: the origin country (where the majority of the value was added to the good); the export country (where the firm responsible for exporting the good is located); and the load port country (where the good was loaded for export).

- For less commonly used routes, higher freight volumes may result in lower freight costs due to economies of scale or greater competition. Or alternatively, it may be the case that routes with lower freight costs attract greater volumes of trade.
- When the sea shipment contains multiple goods rather than a single good.

F4.1

Ad valorem sea freight costs – the freight costs faced by New Zealand importers and exporters as a percentage of shipment value – have decreased over the last two decades.

F4.2

Ad valorem air freight costs decreased in the 1990s, but flattened in the 2000s.

Ad valorem freight costs for New Zealand importers versus Australian importers

Are the ad valorem freight costs faced by importers similar in New Zealand and Australia?³³ In 2010, adjusting for trade composition:

- ad valorem sea freight costs are estimated to be around 21% higher in New Zealand than Australia;
- ad valorem air freight costs are estimated to be around 15% higher in New Zealand than Australia.

These differences suggest ad valorem freight costs for New Zealand importers are significantly higher than for Australian importers.

Ad valorem sea freight costs display a similar trend across both countries, whereas ad valorem air freight costs in Australia have declined over the 2000s, in contrast to New Zealand where these costs have drifted upwards.

There are a few possible reasons why ad valorem freight costs for importers differ between New Zealand and Australia:

- Larger trade volumes in Australia allow greater scale economies, and hence lower freight costs.
- Larger trade volumes in Australia support more intense competition between carriers, leading to lower freight prices.
- Geographical factors may mean that carriers incur higher costs in servicing New Zealand. The pattern of servicing multiple New Zealand ports as part of a single shipping route could reflect such factors.

On the other hand, trade imbalances mean that New Zealand has more spare shipping container capacity on its import routes relative to Australia, which would tend to lower the cost of providing container shipping into New Zealand relative to Australia.

F4.3

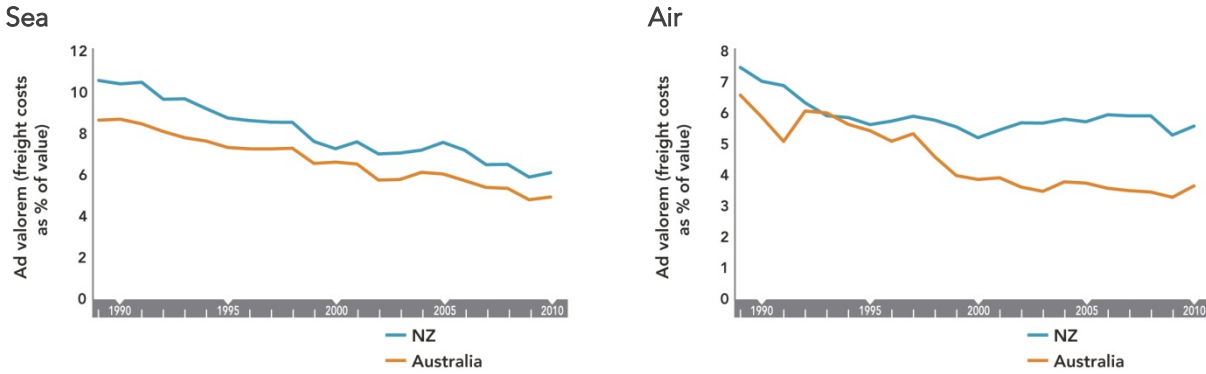
Ad valorem sea import freight costs are higher in New Zealand than in Australia, after accounting for compositional factors. Sea freight costs for both countries exhibit a similar decreasing trend over the past two decades.

³³ International comparisons of freight costs are restricted to imports given data limitations.

F4.4

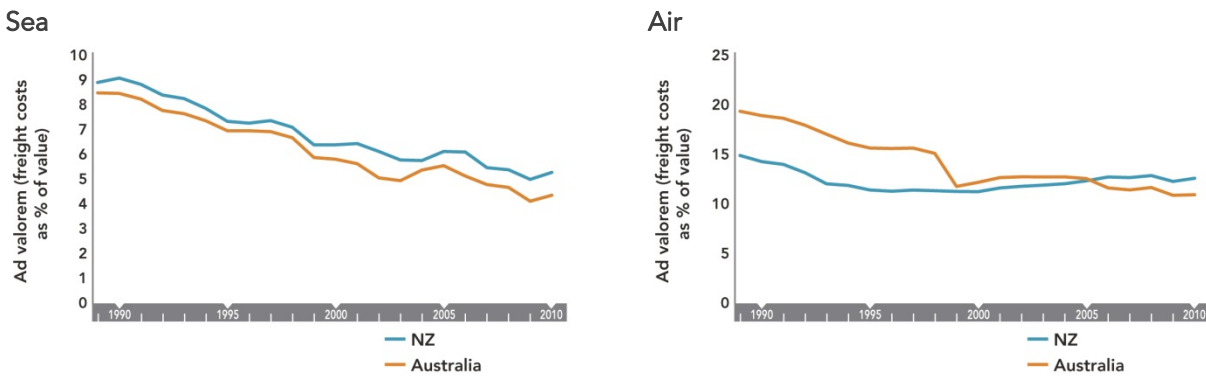
Reductions in ad valorem air freight costs in Australia flattened off in the 2000s, but not to the same extent as in New Zealand. Ad valorem air freight costs are currently higher in New Zealand than in Australia.

Figure 4.7 New Zealand and Australia import freight costs: unadjusted ad valorem



Source: Productivity Commission calculations using Statistics New Zealand and Australian Bureau of Statistics data

Figure 4.8 New Zealand and Australia import freight costs, adjusted ad valorem: 1991-2010



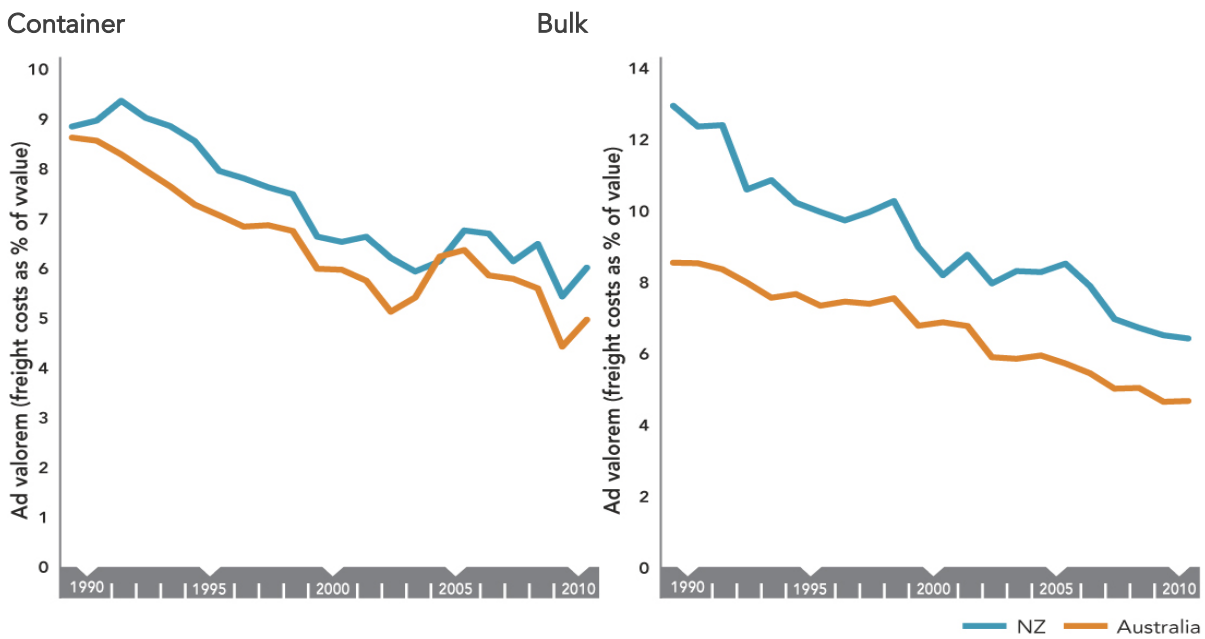
Source: Productivity Commission calculations using Statistics New Zealand and Australian Bureau of Statistics data

Notes:

1. The adjusted ad valorem rate is derived from a regression and controls for changes in the mix of trade partners and products traded.
2. These figures need to be interpreted with caution. Figure 4.7 (unadjusted ad valorem costs) reflects the actual costs that shippers pay for the types of goods that are traded at any point in time. Figure 4.8 (adjusted ad valorem costs) effectively holds the type of goods and other factors constant over time. The lines in Figure 4.8 therefore do not reflect the actual costs to shippers at any point in time.

Ad valorem sea freight costs have fallen for both container and bulk shipping (Figure 4.9).

Figure 4.9 Import ad valorem freight costs by shipping mode: 1989-2010



Source: Productivity Commission using Statistics New Zealand and Australian Bureau of Statistics data

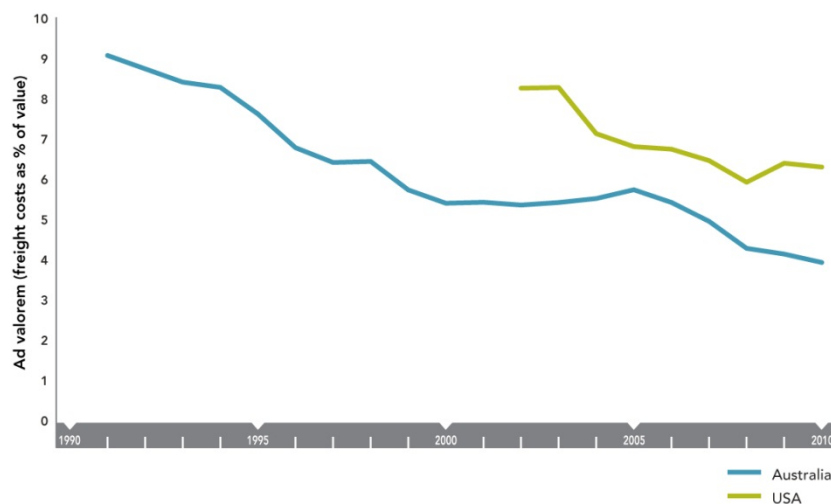
Notes:

1. The split between container and bulk shipping is approximate only, based on HS2 or HS4 product groupings.

Sea and air freight costs for exporters

Comprehensive data on freight costs for New Zealand's exports are only available for two destination countries – Australia and the United States – which account for about a third of New Zealand's exports by value.³⁴ Ad valorem freight costs for New Zealand exports to Australia and the United States have generally fallen over time (Figure 4.10). It costs more to export goods to the United States than to Australia, reflecting the increased distance.

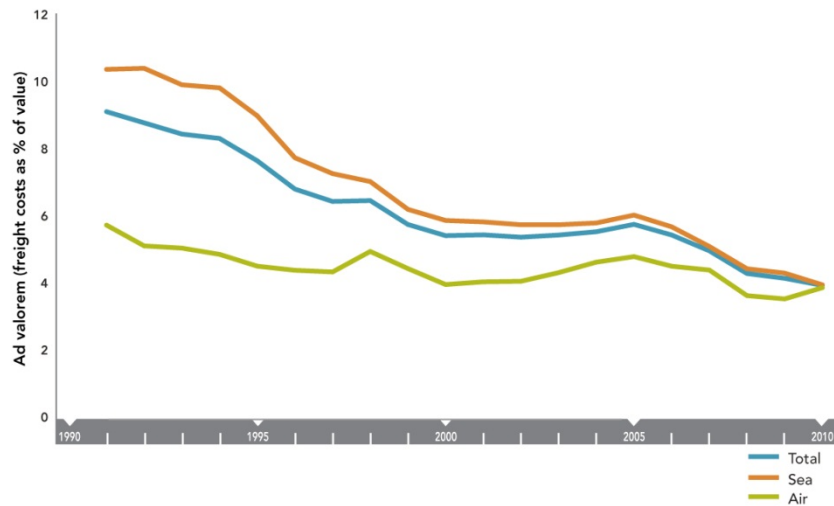
Figure 4.10 Ad valorem freight costs for New Zealand exports to Australia and the US: 1991-2010



Source: Productivity Commission calculations using Australian Bureau of Statistics and US Census Bureau data

Ad valorem sea freight costs have fallen for New Zealand exports to Australia, whereas ad valorem air freight costs for the same route have remained relatively flat (Figure 4.11).

³⁴ This analysis uses Australian and US customs data on inward freight costs.

Figure 4.11 Ad valorem freight costs for New Zealand's exports to Australia by transport mode

Source: Productivity Commission calculations using Australian Bureau of Statistics data

New Zealand ad valorem export costs to Australia and the US follow a similar downward trend in ad valorem import costs. This suggests that ad valorem import costs are a reasonably good proxy for ad valorem export freight costs.

Implications of the ad valorem data

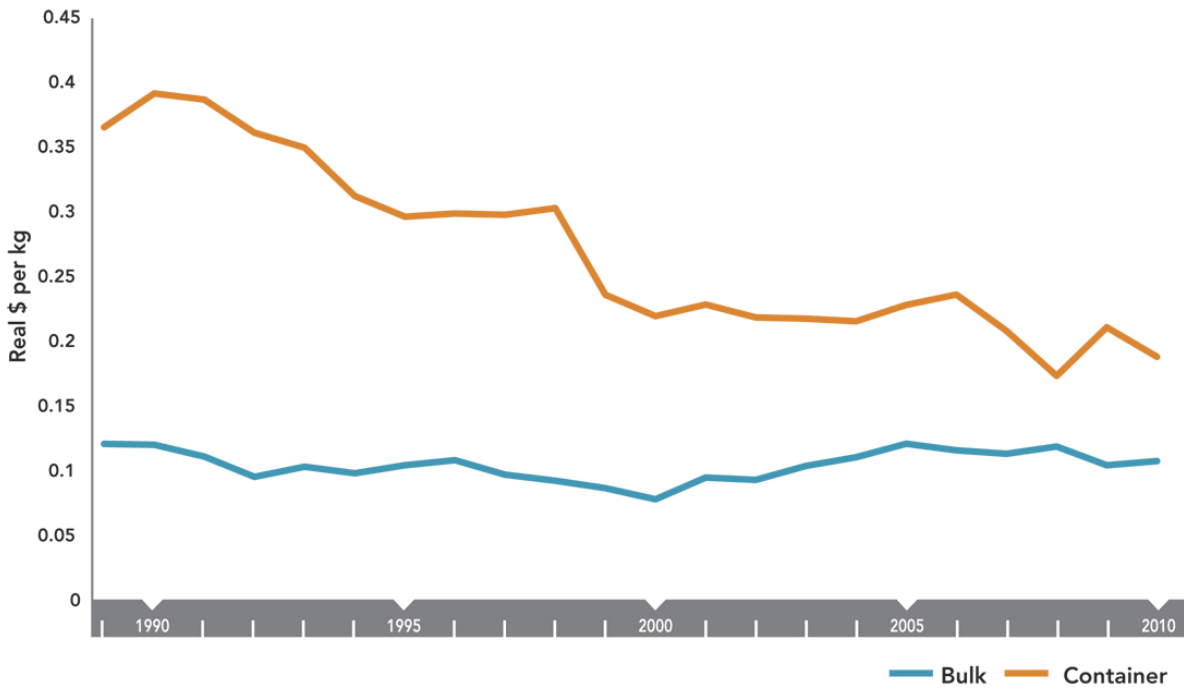
The results presented above suggest that ad valorem freight costs have been generally falling over time, and that New Zealand shippers face higher costs than their Australian counterparts.

Actual freight costs

The total actual freight costs for imports in 2010 were \$2.4 billion, excluding domestic onshore costs (such as inland transport in New Zealand). On reasonable assumptions, freight costs for exports were about \$2.6 billion in 2010. For both imports and exports this amounts to \$5 billion – about 2.7% of GDP.

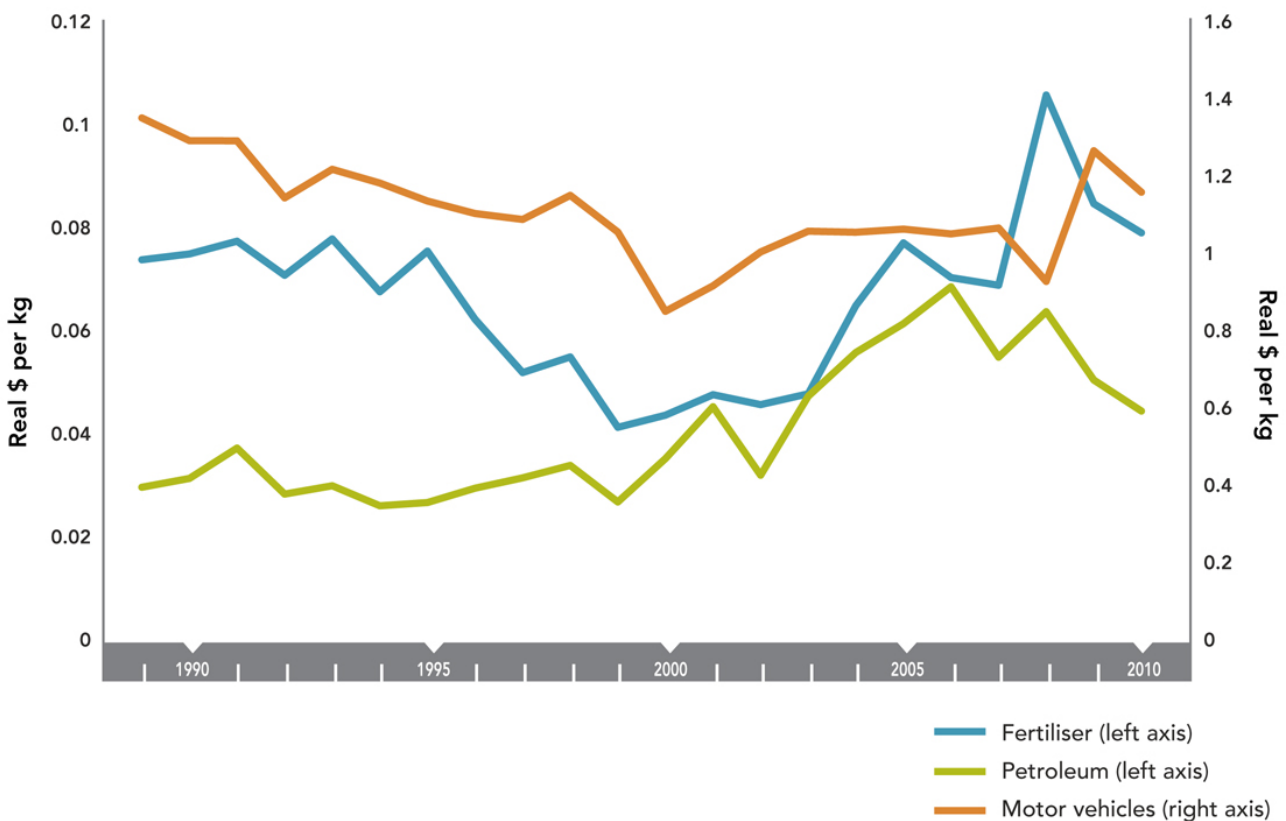
The following three tables show the trend in the actual freight costs per kilogram for imports into New Zealand, for different modes of international freight transport. Figure 4.12 compares freight costs per kilogram for bulk and container shipping imports, and indicates that container shipping freight costs per kilogram have dropped over time. The trend for bulk shipping is relatively flat, but Figure 4.13 provides freight costs per kilogram for three common types of imported bulk products. This table indicates that the freight costs per kilogram have fluctuated considerably. Finally, Figure 4.14 indicates that freight costs per kilogram for imports by air have increased from around 2000.

Figure 4.12 Freight costs per kg for bulk and container shipping imports into New Zealand: 1989-2010

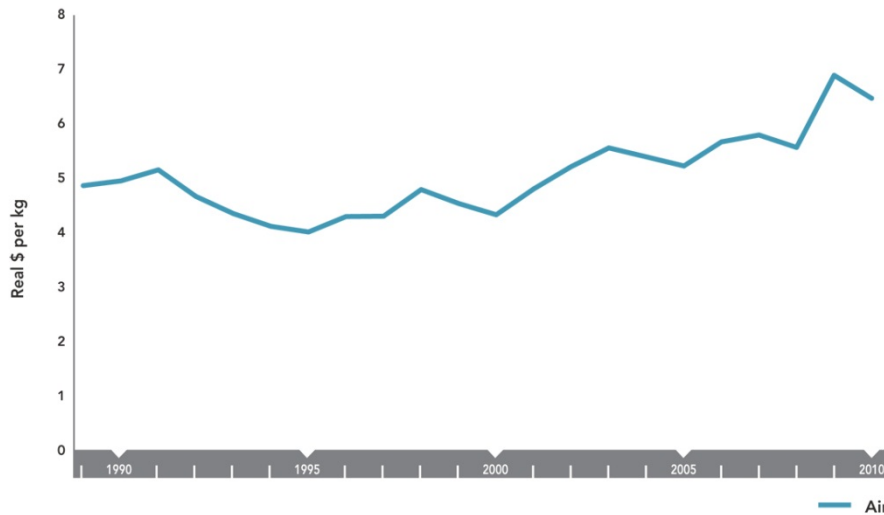


Source: Statistics New Zealand

Figure 4.13 Freight costs per kg for three types of bulk shipping imports into New Zealand: 1989-2010



Source: Statistics New Zealand

Figure 4.14 Freight costs per kg for air freight imports into New Zealand: 1989-2010

Source: Statistics New Zealand

This information on actual freight costs per kilogram indicates lower container shipping freight rates are likely to have contributed to the reduction in ad valorem freight costs over time. However, the reduction in ad valorem freight rates for bulk shipping are more likely to be due to other factors, such as a possible increase in the value of bulk goods per kilogram.

F4.5

Container shipping freight costs per kilogram have dropped over time. This suggests that cost-reducing efficiency and technology improvements appear to be important drivers for the decrease in container shipping costs.

4.2 Supply chain costs by component

This section provides a more detailed assessment of the components of freight costs faced by New Zealand importers and exporters, complementing the high-level view of ad valorem freight costs presented above.

The data presented is derived from two sources:

- the World Bank's *Doing Business* project on trading across borders; and
- case study analysis of the freight costs incurred in transporting cargo in and out of Auckland and Sydney via both sea and air freight.

In comparison to the ad valorem results outlined in the previous section, these approaches provide a selective view of freight costs on particular routes at a given point in time. However, as a result of the small number of cases that are considered, the case studies are less useful as representative measures of freight costs than the ad valorem freight costs in section 4.1.

International comparisons of the onshore costs of sea freight

The World Bank's *Doing Business* data provides a useful high-level overview of the onshore costs of international sea freight. The *Doing Business* report attempts to measure the cost associated with exporting and importing a standardised cargo of goods by sea transport, excluding tariffs and international sea freight costs. This methodology is subject to limitations. For example, as the results are based on an importer or exporter operating out of each country's largest business centre, transportation costs do not account for differences in the average distance travelled on inland routes.

New Zealand's onshore costs compare favourably with other OECD countries, according to the 2011 report. Total costs in New Zealand are around 20% and 25% less than the OECD average for exports and imports respectively (Table 4.1). Australia's onshore costs are close to the OECD average and are 19% and 26% higher than in New Zealand for exports and imports respectively.

New Zealand has lower onshore costs than Australia for all components except export customs procedures. However, New Zealand costs are still higher than Singapore, the top-performing country. There is room for further improvement, particularly in the areas of document preparation and customs requirements (see Chapter 7).³⁵

F4.6

Onshore costs of New Zealand's sea freight compare favourably with Australia and other OECD countries, but are higher than for Singapore, the country with the lowest costs.

Table 4.1 Onshore costs of international sea freight

	Export procedures (US\$)				Import procedures (US\$)			
	New Zealand	Australia	OECD average	Singapore	New Zealand	Australia	OECD average	Singapore
Document preparation	205	285	170	116	175	269	184	99
Customs	50	45	83	50	50	120	98	50
Terminal handling	300	350	265	150	300	350	272	150
Inland transportation	300	380	513	140	300	380	531	140
Total	855	1,060	1,032	456	824	1,119	1,085	439

Source: World Bank and International Finance Corporation (2011)

Notes:

1. The costs are for one dry-cargo, 20-foot, full container load; weighing 10 tons and valued at US\$20,000. The product is not hazardous nor does it include military items; does not require refrigeration or any other special environment; does not require any special phytosanitary or environmental safety standards other than accepted international standards; and is one of the economy's leading export or import products.
2. Note that the New Zealand survey for this World Bank report involved only 5 respondents (and the Australia and Singapore surveys involved just 3 respondents each). However, the respondents were chosen as representatives of multiple shippers so should have a good understanding of costs faced by shippers. See www.doingbusiness.org/contributors/doing-business for further details.

Case studies of cost components

This section presents case studies of prices for both sea and air freight. The case studies provide a breakdown of cost components and comparisons of these costs against Australia's.

Case studies have their limitations and need to be interpreted with caution. The examples used in the case studies may not necessarily be representative. As they are snapshot estimates, price differences partly reflect particular conditions, such as capacity constraints, at that point in time. In addition, the material presented here is based on quotes for smaller importers and exporters and a small number of freight forwarders.³⁶ It is likely that these prices are not representative of the prices larger importers and exporters can negotiate. A cross-country comparison for such customers may yield different results.

Sea freight case studies

The Commission received multiple quotes in November 2011 in order to examine the components of freight prices faced by small-to-medium sized importers and exporters in New Zealand and Australia. The quotes were for a single shipment, but made in the context of expected regular shipments of 12 to 30 twenty-foot containers per year. The quotes were per container and were received directly from shipping lines and freight forwarders (supplemented with further information from border and security agencies). The

³⁵The methodology used makes it difficult to compare New Zealand with Singapore on some measures such as inland transportation. However, Singapore offers an international best practice comparison for document and customs procedures.

³⁶Neither are these quotes the result of the hard bargaining that might occur in a commercial situation.

quotes cover port-to-port costs only. The figures presented here are those for the quote with the lowest total price, reflecting the expected behaviour of a shipper having received multiple quotes all meeting their specified criteria. Appendix G describes the full set of quotes.

Quotes were received for the following products and routes:

- Imports:
 - electronic componentry to Auckland and Sydney from Singapore, Long Beach and Shanghai; and
 - electronic componentry from Sydney to Auckland.
- Exports:
 - aluminium extrusions from Auckland and Sydney to Singapore, Long Beach and Shanghai; and
 - aluminium extrusions from Auckland to Sydney.

Auckland routes were more expensive than the Sydney routes. The differences are between 30% to 33% for imports, which is broadly consistent with the ad valorem differences between the two countries reported in section 4.1.³⁷

The differences between the price of exports from Auckland and exports from Sydney varies greatly depending on the route. There is only a 6% difference between exports from Auckland to Long Beach and Sydney to Long Beach. However, the lowest quote for exports from Auckland to Shanghai was 87% more expensive than the quote for Sydney to Shanghai. This extreme case is possibly explained by marginal pricing on the Sydney-Shanghai route reflecting an imbalance of full vs. empty containers on that route. Unlike Australia, both China and New Zealand are net exporters of full containers, so there is little opportunity for marginal pricing of otherwise empty containers from New Zealand.³⁸

The destination³⁹ and origin⁴⁰ costs at Auckland were cheaper than at Sydney in all cases, mainly due to lower port costs in Auckland.⁴¹ However, this was not enough to offset the large differences in sea freight prices.

The variation between the lowest and highest quoted sea transport prices was considerable for some routes, but quotes for sea transport prices for other routes exhibited little variation (see Appendix G).

Table 4.2 Auckland and Sydney sea freight import cost comparison case studies

	Auckland (NZ\$)	Sydney (NZ\$)	% difference ¹
Singapore to Auckland/Sydney²			
Sea transport costs	1,373	593	132
Destination costs	456	819	-44
Total	1,829	1,412	30

³⁷ See Figures 4.7 and 4.8.

³⁸ Marginal pricing based on container imbalances can occur on many routes at specific times of year. For this reason it can be misleading to generalise the results of case studies such as those presented here.

³⁹ 'Destination costs' are costs incurred including and after the unloading of cargo. Depending on the scenario this may include import clearance costs, port/airport costs and the costs of transport to a local warehouse.

⁴⁰ For exports, 'origin costs' are costs incurred up to and including the loading of cargo. Depending on the scenario this may include the cost of transport from a local warehouse to the port/airport, port/airport costs and export clearance costs.

⁴¹ 'Port costs' include terminal handling costs and terminal security fees. Sydney seaport also has a congestion surcharge for imports; however, even if this charge is not taken into account, port costs for Sydney were still higher than for Auckland. Port costs do not include marine service charges; eg, pilotage, tug boats or berth charges – these are covered by 'sea freight costs'.

	Auckland (NZ\$)	Sydney (NZ\$)	% difference ¹
Long Beach to Auckland/Sydney²			
Sea transport costs	4,255	2,773	53
Destination costs	466	806	-42
Total	4,721	3,579	32
Shanghai to Auckland/Sydney²			
Sea transport costs	1,413	613	131
Destination costs	439	931	-53
Total	1,852	1,394	33
Sydney to Auckland			
Sea transport costs	485		
Destination costs	428		
Total	913		

Source: Productivity Commission

Notes:

1. Percentage differences use Australia as the base (ie, New Zealand costs less Australian costs divided by Australian costs).
2. Origin costs are not included as the terms of sale are free on board (FOB) load port (ie, all origin costs paid by the supplier of the goods).
3. The lowest quoted price is listed.

Table 4.3 Auckland and Sydney sea freight export cost comparison case studies

	Auckland (NZ\$)	Sydney (NZ\$)	% difference ¹
Auckland/Sydney to Singapore			
Origin costs	407	742	-45
Sea transport costs	1,550	410	278
Destination costs	336	350	-4
Total	2,293	1,502	53
Auckland/Sydney to Long Beach			
Origin costs	407	750	-46
Sea transport costs	2,773	2,175	27
Destination costs	620	630	-2
Total	3,760	3,555	6
Auckland/Sydney to Shanghai			
Origin costs	412	712	-42
Sea transport costs	1,580	215 ³	635
Destination costs	265	282	-6
Total	2,256	1,209³	87
Auckland to Sydney			
Sea transport costs	605		
Destination costs	733		
Total	1,338		

Source: Productivity Commission

Notes:

1. Percentage differences use Australia as the base (ie, New Zealand costs less Australian costs divided by Australian costs).
2. The lowest quoted price is listed.
3. This extreme case is possibly explained by marginal pricing on the Sydney-Shanghai route reflecting an imbalance of full vs. empty containers on that route. Unlike Australia, both China and New Zealand are net exporters of full containers, so there is little opportunity for marginal pricing of otherwise empty containers from New Zealand.

F4.7

Case studies suggest that the sea transport component of total sea freight costs are considerably higher for routes in and out of Auckland compared with routes in and out of Sydney. The onshore components of Auckland's sea freight costs, particularly its port handling costs, compare favourably with Sydney's.

The container shipping case studies presented here are consistent with the ad valorem data (section 4.1). Both indicate that New Zealand shippers face higher freight charges than do Australian shippers. The case studies further suggest that it is higher sea transport charges that are responsible for that difference. These differences are explored in section 4.3.

Freight forwarder quotes

In all cases, the lowest quote for a route was a quote from a shipping line. The freight forwarder quotes were higher than the shipping line quotes, reflecting the cost of the freight forwarder's services. Freight forwarders offer additional services by facilitating the movement of freight along the logistics chain and play

a key role in ensuring that transport links are reliable, tailored to the product and timely (as discussed in section 3.1).

Table 4.4 shows the difference between the lowest shipping line quotes and the lowest freight forwarder quotes for each route. Freight forwarder margins are generally higher in Australia than New Zealand.

Table 4.4 Difference between shipping line quotes and freight forwarder quotes

	Lowest shipping line quote (NZ\$)	Lowest freight forwarder quote (NZ\$)	Difference (NZ\$)	% difference (shipping quote as base)
Imports				
Singapore to Auckland	1,829	2,358	529	29%
Singapore to Sydney	1,412	1,958	546	39%
Long Beach to Auckland	4,721	4,990	269	6%
Long Beach to Sydney	3,579	3,828	249	7%
Shanghai to Auckland	1,852	2,435	583	31%
Shanghai to Sydney	1,394	2,118	724	52%
Exports				
Auckland to Singapore	2,293	2,463	170	7%
Sydney to Singapore	1,502	2,202	700	47%
Auckland to Long Beach	3,760	4,038	278	7%
Sydney to Long Beach	3,555	3,713	158	4%
Auckland to Shanghai	2,256	2,533	277	12%
Sydney to Shanghai	1,209	1,885	676	56%

Source: Productivity Commission

Air freight case studies

The Commission received quotes in October 2011 for air freight services from three major freight forwarding companies to carry a cubic metre of general goods weighing 167kg⁴² on a regular weekly basis for:

- Imports:
 - from Shanghai and Los Angeles to Auckland and Sydney; and
 - from Sydney to Auckland.
- Exports:
 - from Auckland and Sydney to Shanghai and Los Angeles; and
 - from Auckland to Sydney.

The case studies indicate that total air freight costs for Auckland are lower than those for Sydney (Table 4.5) and (Table 4.6). The air transport component of total costs is fairly similar for Auckland and Sydney, and most of the differences in total costs are due to lower ground handling costs in Auckland. These ground handling components can account for a reasonable proportion of the total costs, particularly for the shorter

⁴² The volume conversion of 1m³ = 167kg is an International Air Transport Association (IATA) standard.

trans-Tasman routes, where they make up the majority of the total costs. A substantial portion of these costs are for documentation and security fees, indicative of significant barriers to the goal of a seamless trans-Tasman single economic market.

There can be marked differences in freight costs depending on route direction. For example, the air freight component for Shanghai to Auckland or Sydney is much higher than for the routes from Auckland or Sydney to Shanghai. These differences may be due to the air freight capacity from Shanghai to Australasia being more heavily utilised than the routes from Australasia to Shanghai (see Box 4.4 for a discussion of the supply of air freight).

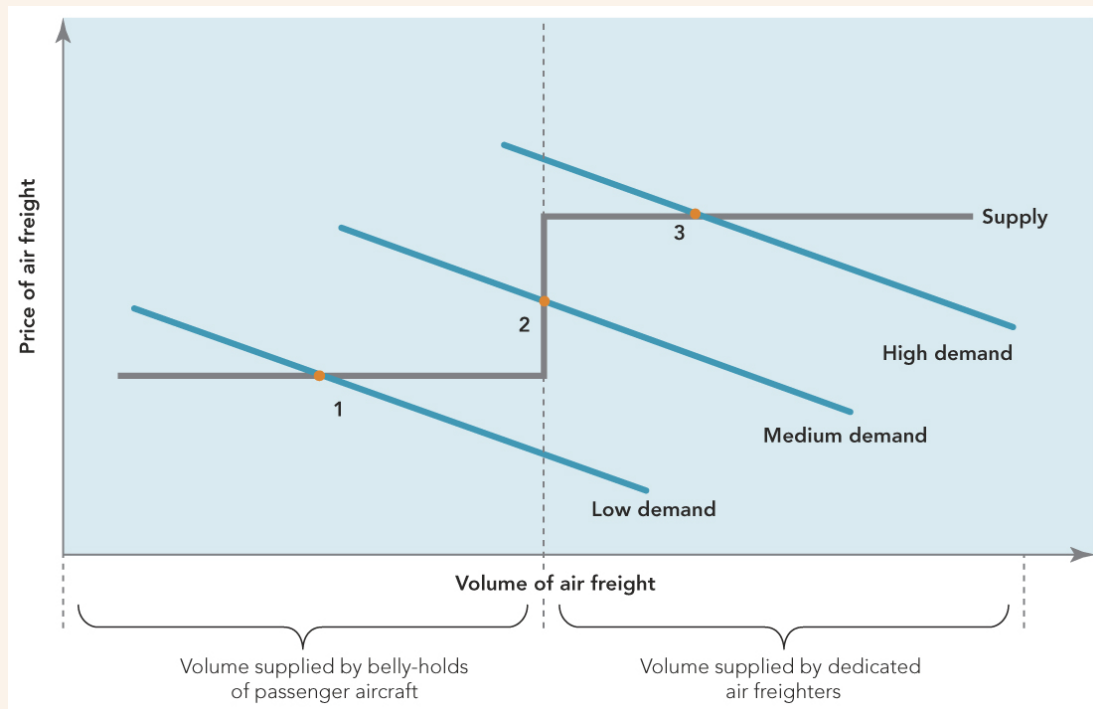
F4.8

Case studies suggest that total air freight costs for selected international routes into and out of Auckland are less than those for the analogous routes into and out of Sydney. The air transport component of total costs is fairly similar for Auckland and Sydney, and most of the differences in total costs are due to lower ground handling costs in Auckland.

Box 4.4 The economics of bellyhold air freight and dedicated freighters

The distinctive feature of New Zealand's air freight market is that the supply curve for air freight on international routes has a kink. For low total volumes the price of air freight per unit is low because freight will be carried in the bellyholds of passenger aircraft at marginal cost prices. When the bellyhold capacity of aircraft on a route is filled (at the vertical line), additional freight will be carried by dedicated freighters, but at a higher price per unit to cover the carrier's fixed and marginal costs.

Figure 4.15 Stylised demand and supply for air freight



The diagram shows three scenarios:

- At point 1, where there is low demand for air freight by exporters and importers, the demand can be met by passenger aircraft using their bellyhold capacity.
- At point 2, where there is a medium level of demand for air freight, there are capacity constraints in the bellyholds of passenger aircraft. At this point, passenger airlines are able to charge more for bellyhold capacity. Essentially this is to ration the available space.

- At point 3, where there is high demand for air freight, dedicated freighters will supply additional capacity, provided that the market is willing to pay for the higher costs of dedicated air freighters.

The total amount of bellyhold capacity will depend on the market supply and demand for international passenger services. On some routes the supply of passenger services, and hence the supply of bellyhold capacity, may be constrained by government air services agreements. These agreements sometimes set limits on the number of flights and/or passengers that designated airlines may fly on an international route (see Chapter 12 for further discussion).

Table 4.5 Auckland and Sydney air freight import cost comparison case studies

	Auckland (NZ\$)	Sydney (NZ\$)	% difference ¹
Shanghai to Auckland/Sydney²			
Air transport costs	758	868	-13%
Destination costs	189	289	-35%
Total	947	1,158	-18%
Los Angeles to Auckland/Sydney			
Origin costs	130	130	0%
Air transport costs	749	749	0%
Destination costs	171	282	-39%
Total	1,050	1,162	-10%
Sydney to Auckland			
Origin costs	111		
Air transport costs	220		
Destination costs	189		
Total	520		

Source: Productivity Commission

Notes:

1. Percentage differences use Australia as the base (ie, New Zealand costs less Australian costs divided by Australian costs).
2. Origin costs are not included as the terms of sale are free carrier aboard (FCA) load port (ie, all origin costs are paid by the supplier of the goods).
3. The lowest quoted price is listed.

Table 4.6 Auckland and Sydney air freight export cost comparison case studies

	Auckland (NZ\$)	Sydney (NZ\$)	% difference ¹
Auckland/Sydney to Shanghai²			
Origin costs	120	170	-29%
Air transport costs	200	243	-18%
Total	320	413	-23%
Auckland/Sydney to Los Angeles			
Origin costs	120	318	-62%
Air transport costs	685	472	45%
Destination costs	270	329	-18%
Total	1,075	1,119	-4%
Auckland to Sydney			
Origin costs	95		
Air transport costs	167		
Destination costs	158		
Total	420		

Source: Productivity Commission

Notes:

1. Percentage differences use Australia as the base (ie, New Zealand costs less Australian costs divided by Australian costs).
2. Destination costs are not included as the terms of sale are Delivered at Terminal; ie, all destination costs are paid by the buyer of the goods.
3. The lowest quoted price is listed.

Domestic freight costs

Domestic transport costs may account for a substantial proportion of total freight costs, depending on the source or destination of the freight. Domestic transport costs were not included in the sea freight case study results presented above, and the air freight case studies include only the cost of transporting goods from (to) a metropolitan area to (from) the freight carrier's warehouse.

There is wide variation in domestic transport costs across different transport modes, with coastal shipping the least expensive and road transport the most expensive (Table 4.7). However, coastal shipping tends to be relatively slow – between Auckland and Christchurch, delivery via coastal shipping takes 4 days, compared to 2.5 days for rail and 1.5 days for road (Hyder Consulting, 2008). The willingness of shippers to move freight by truck – despite the additional cost compared to rail and coastal shipping – indicates the value of timeliness in many logistics chains.

Table 4.7 Domestic transport costs for one 20 foot container between Auckland and Christchurch

Route	Coastal shipping (\$)	Rail (\$)	Road (\$)
Auckland to Christchurch	1,703	2,311	5,197
Christchurch to Auckland	1,515	2,071	4,569

Source: Ministry of Transport (2011h)

4.3 Why does New Zealand face higher sea freight transport charges for containers than Australia?

Ad valorem data (section 4.1) and container shipping case studies (section 4.2) suggest that New Zealand shippers face higher freight prices⁴³ than Australian shippers. The case study results have important caveats and the results should not be taken as definitive; however, they show that higher sea freight charges – rather than onshore costs – are responsible for the difference in prices between the two countries. It is important to try to understand the reasons for these price differences.

Inquiry participants have identified some possible reasons (Box 4.5).

Box 4.5 Participant views on differences between New Zealand and Australian sea freight charges

Ports of Auckland

...primarily driven by volume and competition, and possibly some other factors. In terms of container throughput, the Sydney import market is roughly 3 times larger than the Auckland import market. With more competition this dynamic alone will drive a difference in sea freight costs. (sub. DR104, p. 23)

Ministry of Transport

...distinctive geographical and economic features of New Zealand freight transport task. These might include longer distances from overseas markets, very small volumes by international standards, and a relatively high proportion of primary or semi-processed exports. (sub. 58, p. 2)

New Zealand Council of Trade Unions

It appears that the shipping companies are simply pocketing increased profits from remarkably lower New Zealand port dues rather than passing them on to New Zealand importers and exporters. (sub. DR101, p. 9)

This leads to two possible hypotheses for the price differences.

1. There are higher costs to serve the New Zealand market.
2. There is less competition between lines servicing the New Zealand market, supporting monopoly, cartel or oligopoly pricing.

The following sections explore the extent to which the available evidence supports or does not support each of these hypotheses. These sections report the Commission's analysis based on data sourced from the ComPair BlueWater Reporting database.⁴⁴ The data focuses on the three trade lanes that were the subject of the case studies in section 4.2, ie, Australia/New Zealand to Singapore, Shanghai and Long Beach. Sydney and Melbourne have been selected as representative ports for Australia, and Auckland and Tauranga as representative ports for New Zealand.

Does it cost more for carriers to service New Zealand than Australia?

The available data suggests that New Zealand is more expensive to service than Australia. The predominant reason is lower freight volumes, meaning that Australia supports economies of scale that New Zealand lacks, rather than geographic factors.

The commercial decision as to whether a vessel should call at a port, or indeed a country, is complex. On the revenue side, the shipping line will get paid for all the full containers exchanged (ie, loaded or

⁴³ In this section, 'price' refers to the amount charged by shipping lines and paid by shippers. 'Cost' refers to the total cost incurred by shipping lines of providing container services, including a normal market return on capital employed.

⁴⁴ ComPair Data provides a global vessel voyage database on ocean carrier liner schedules. See <https://www.compairedata.com/default.htm>.

unloaded). Per-container revenue will generally cover the direct costs of loading and unloading full containers; however, there are many other costs associated with port calls.

An additional port call will make the total voyage longer – meaning increased fuel, maintenance, labour and capital costs. There are fixed costs associated with calling at each port, including pilotage, tugs and berthing fees. Those containers already on the vessel destined for other ports will be delayed – a cost to their shippers which may reduce the price they are willing to pay, and hence revenue to the carrier. The schedule change may also require larger or more vessels and/or faster sailing speeds – with corresponding costs.

The following subsections investigate the available data as to possible reasons for differences in the cost to service the two countries.

Is Auckland more remote than Sydney?

Distance is a significant determinant of both capital and operating costs for liner services; however, it does not appear to play a strong role in explaining the case study price differences.

The sea distance between the ports included in the case studies is shown in Table 4.8. The 14% longer distance between Auckland and Singapore is consistent with increased distance contributing to higher sea transport costs on that route, relative to the Sydney case. Liner services calling at Singapore service Australia, New Zealand or both countries, so the port-to-port distances are a reasonable proxy for the actual distance travelled by containers.

The distance data shows the converse for Long Beach. However, the relevant Long Beach liner services call at both New Zealand and Australian ports. Depending on the specific service, New Zealand cargoes may travel via Australia, or vice versa. This means that port-to-port distances may be not as useful a proxy as for the Singapore case. The 3% difference in distance for the Shanghai case is unlikely to be a significant factor.

Table 4.8 Sea distance to case study ports from Auckland and Sydney (nautical miles)

Seaport	Distance from Auckland	Distance from Sydney	% difference ¹
Singapore	4,857	4,274	14%
Long Beach (USA)	5,664	6,740	-16%
Shanghai	5,197	5,036	3%

Source: <http://www.searates.com/reference/portdistance/>

Notes:

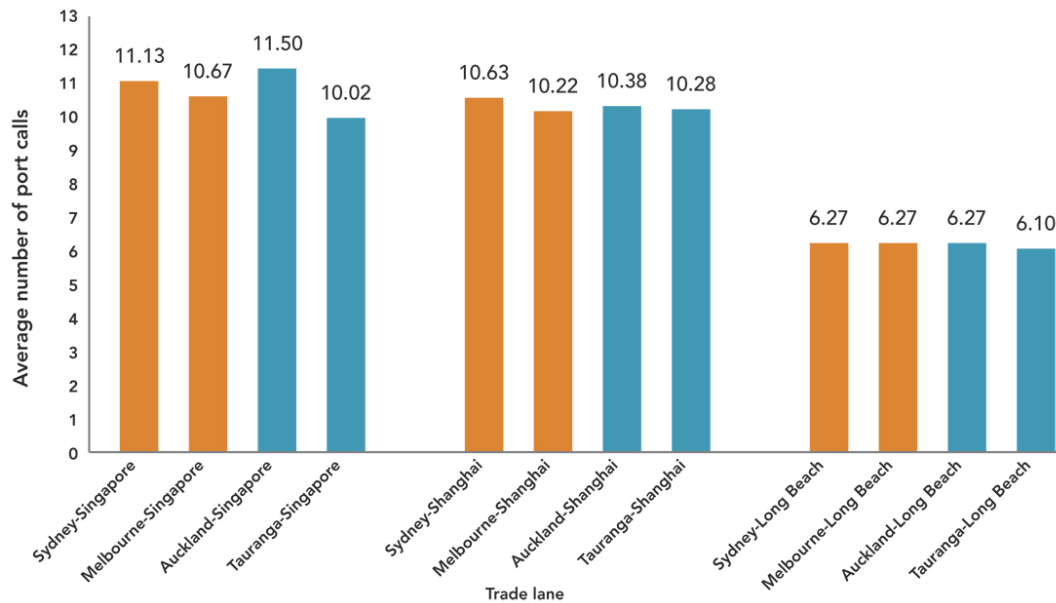
1. Percentage differences use Australia as the base (ie, New Zealand distances less Australian distances divided by Australian distances).

The relationship between origin port to destination port distance and sea freight prices does not appear to be particularly strong in these case studies, suggesting that other factors (possibly including the actual route travelled) are more significant.

Australia and New Zealand routes have similar numbers of port calls

One way for shipping lines to reduce costs is to call at fewer ports. A distinctive feature of New Zealand shipping is that international vessels call at relatively small ports. If New Zealand services called at more ports than comparable Australia services, then this could be a potential source of higher costs to service New Zealand. This explanation is not supported by the data. There is no clear pattern in either the number of calls in the entire service (Figure 4.16) or the number of calls within either Australia or New Zealand (Figure 4.17).

Figure 4.16 Average port calls per service

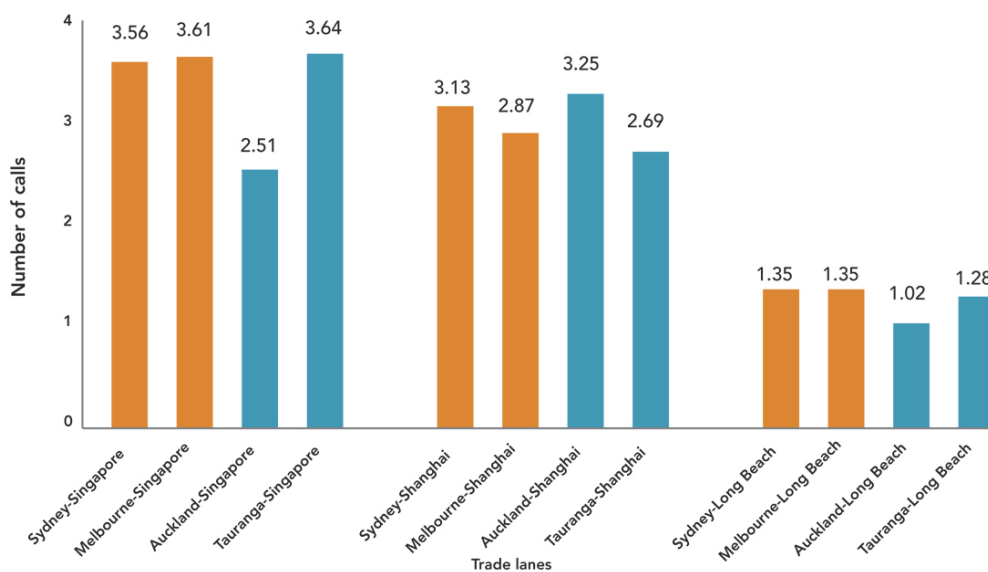


Source: Productivity Commission calculations, based on ComPair BlueWater Reporting database, as at 26 February 2012.

Notes:

1. Average number of port calls per service that calls at both the listed ports. Weighted by frequency of service. Some services (eg, those calling at both Auckland and Tauranga) will contribute to more than one column. The number of port calls for routes to and from New Zealand may have been affected by industrial action at Ports of Auckland.

Figure 4.17 Average within-country port calls



Source: Productivity Commission calculations, based on ComPair BlueWater Reporting database, as at 26 February 2012.

Notes:

1. Average number of port calls within either Australia (Sydney and Melbourne routes) or New Zealand (Auckland and Tauranga routes) per service that calls at both the listed ports. Weighted by frequency of service. Some services (eg, those calling at both Sydney and Melbourne) will contribute to more than one column. The number of port calls for routes to and from New Zealand may have been affected by industrial action at Ports of Auckland.

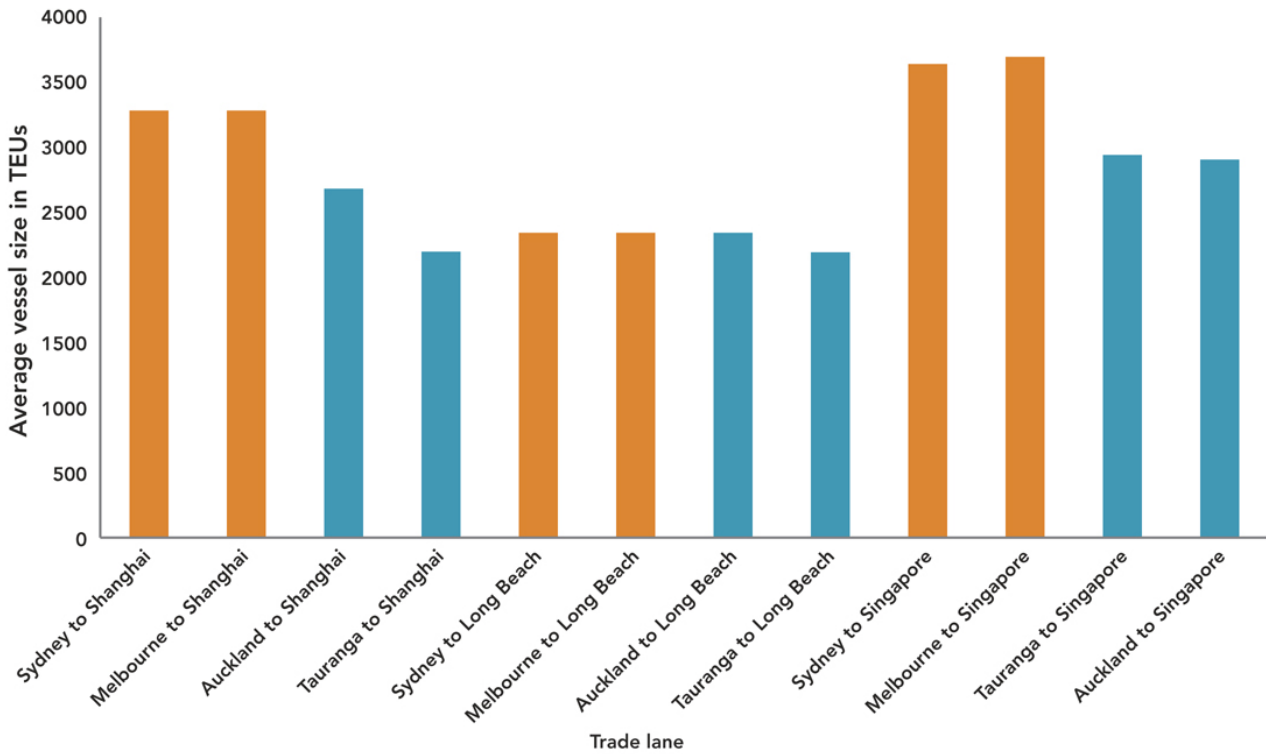
Smaller vessels serving New Zealand routes lead to higher costs

Vessel size is a major factor in the cost of providing a container shipping service (Notteboom and Vernimmen, 2009). The New Zealand Shippers' Council (2010) calculate a per-TEU cost saving of 13% in

moving from a 2600 TEU vessel to a 4100 TEU vessel.⁴⁵ The lower costs in their model for larger vessels are driven by savings in fuel, operating, port and capital costs.

Figure 4.18 indicates a difference between the average size of vessels servicing Australia and New Zealand in the Singapore and Shanghai routes. This is a similar proportional increment to the Shippers' Council calculation, suggesting that a cost differential in the general order of 10% might be expected.

Figure 4.18 Average vessel size (TEU) - New Zealand/Australia comparison



Source: Productivity Commission calculations, based on ComPair BlueWater Reporting database, as at 26 February 2012.

Notes:

1. Average vessel size in TEU for services calling in Australia (Sydney and/or Melbourne) and/or New Zealand (Auckland and/or Tauranga), and Singapore, Shanghai or Long Beach.
2. Some services (eg, those calling at both Tauranga and Melbourne) will contribute to more than one column.
3. Average vessel sizes for the Long Beach route are the same across Sydney, Melbourne and Auckland (and similar for Tauranga) because the same ships service Sydney, Melbourne and Auckland (and Tauranga to a lesser extent).

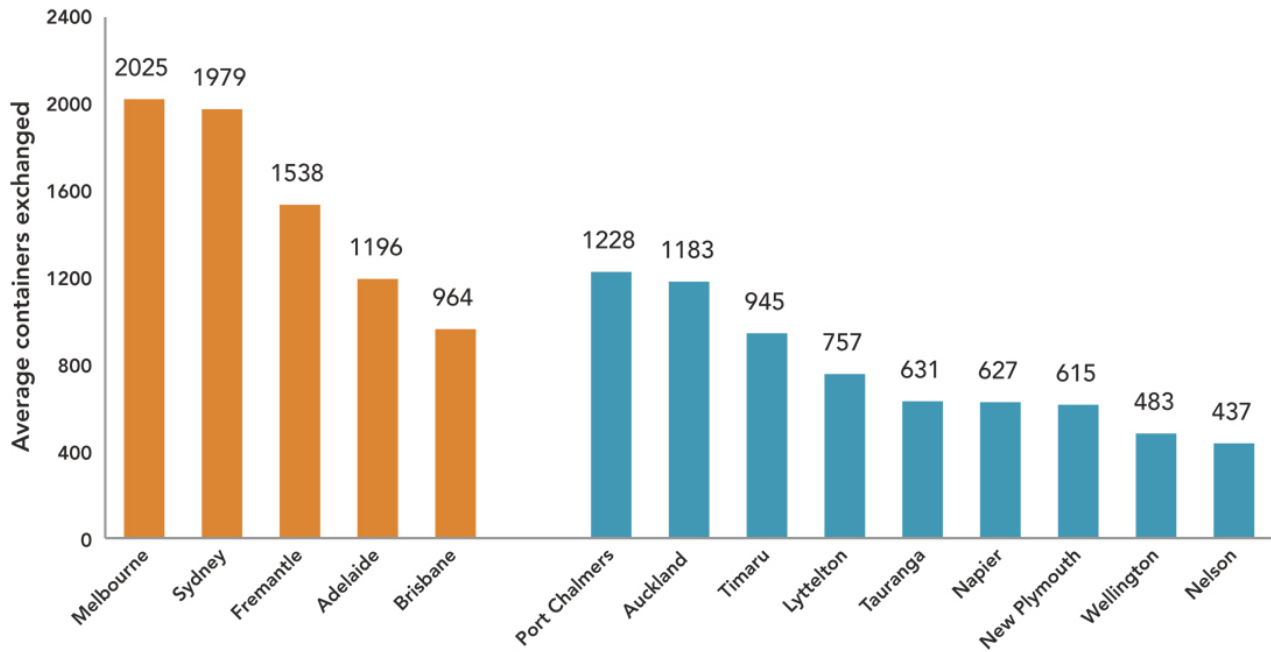
Fewer container exchanges mean higher per container port costs in New Zealand

Servicing smaller trade volumes requires a choice between smaller ships or less frequent services. Analysis of the three trade lanes shows that weekly services are typical for liner services to both New Zealand and Australia. A consequence of holding frequency constant means that the number of containers exchanged per port call will be lower.

New Zealand ports generally have a lower number of container exchanges than do Australian ones (Figure 4.19).

⁴⁵ See also Figure 9.3 in Chapter 9.

Figure 4.19 Average containers exchanged per vessel call at Australian and New Zealand ports



Source: Bureau of Infrastructure, Transport and Regional Economics (2011); New Zealand port company websites.

Notes:

1. Includes empty container exchanges and transshipments. Excludes domestic (coastal) services.
2. Estimates of average containers exchanged were obtained by dividing total exchanges at each port over a period by the number of container-vessel calls in that period.
3. Australian port data covers a full reporting year (2010-2011). Estimates for New Zealand ports are based on various periods, reflecting data availability. These estimates should be regarded as indicative, rather than a basis for between-port comparison.

The cost of calling at ports: marine charges

Ports charge visiting vessels 'marine charges' that are fixed; ie, they do not change according to the number of containers exchanged. These fixed charges make it cheaper on a per-TEU basis to call at a port where more exchanges take place. Table 4.9 shows the fixed charges levied by a selection of ports, and the effect of spreading those charges across the average number of containers exchanged for that port in Figure 4.19.

Fixed port charges are incorporated into the 'sea freight costs' component of Table 4.2 and Table 4.3, rather than the 'origin costs' and 'destination costs' component. Thus they explain part of the discrepancy in prices that motivated this section.

Table 4.9 Fixed port charges per full container exchanged at selected ports

Port	Fixed port charges ¹	Cost per TEU	Cost per full TEU ³
Auckland	\$44,969	\$38	\$51
Tauranga	\$39,594	\$63	\$84
Napier	\$41,138	\$66	\$87
Sydney (Port Botany) ²	\$51,776	\$26	\$35

Source: Port and tug boat company websites, accessed 19 March 2012.

Notes:

1. Fixed port charges include pilotage, tug boats and berth charges for up to 24 hours. Charges are calculated for a notional 231m, 35975 gross-tonne container vessel with 3554 TEU capacity. Assumes two tugs required at Port Botany.
2. Australian charges converted to New Zealand dollars using an exchange rate of 0.8101.
3. 'Cost per full TEU' is calculating assuming that 25% of containers are empty. This is consistent with Ministry of Transport (2012) (24%); Cubic (2009) (23%); and Bureau of Infrastructure, Transport and Regional Economics (2011) (25% for 2010-11).

There are legitimate reasons for higher shipping costs in New Zealand

The above analysis indicates that there are legitimate reasons why New Zealand container shipping is more costly than for Australia. In summary, these reasons are:

- New Zealand is served by smaller container vessels;
- New Zealand ports are more costly to service than Australian ports, because fixed costs need to be spread across a smaller number of container exchanges; and
- New Zealand as a country is more costly to service than Australia (per TEU), as the costs of visiting New Zealand versus Australia need to be spread across a smaller number of container exchanges.

F4.9

Lower trade volumes create higher costs for New Zealand container shipping relative to Australia. These costs provide a plausible explanation for at least part of the significant differences in sea freight prices observed in case studies.

Does reduced competition lead to higher charges for New Zealand shippers?

Reduced competition is the second hypothesis for the higher prices observed for New Zealand shippers. In a competitive market, no single supplier can choose to set a price above the price offered by competitors for the same product or service without losing business to those competitors. Under these circumstances the prices offered by all competitors will converge to a single 'market' price – covering the full costs of supply, but nothing more.

The relevant questions here are:

- What factors would lead to the New Zealand container shipping market being less competitive than the Australian one?
- Can those factors explain any of the observed price differences?

Competition in markets is often assessed in terms of two factors: how many competitors are in the market, and whether a significant proportion of the market share is held by a small number of participants. These factors are addressed in the next two subsections.

How many competitors supply container shipping services?

Table 4.10 provides a first-cut assessment of competition in the three trade lanes.

A clear correlation is evident between the number of services, the total container capacity of those services, and the number of carriers contributing vessels to those services. Increased trade volume would appear to bring an increased number of competitors.

In general, there are fewer services and fewer competing carriers on New Zealand routes than comparable Australian routes. The Long Beach routes in Table 4.10 are an exception because the same vessels serve both Australia and New Zealand.

Table 4.10 Competing container service providers on selected trade lanes

Trade lane	Services ¹	Total nominal weekly capacity ² (TEU)	Carriers contributing vessels ³	Carriers selling capacity ⁴
Sydney – Singapore	8	25,988	17	22
Melbourne – Singapore	9	30,585	18	22
Auckland – Singapore	2	5,986	6	9
Tauranga – Singapore	4	9,441	8	11
Sydney – Shanghai	8	26,715	17	24
Melbourne – Shanghai	8	26,715	17	24
Auckland – Shanghai	2	5,435	6	10
Tauranga – Shanghai	3	7,006	7	11
Sydney – Long Beach	3	4,053	3	7
Melbourne – Long Beach	3	4,053	3	7
Auckland – Long Beach	3	4,053	3	7
Tauranga – Long Beach	2	2,734	3	7

Source: Productivity Commission calculations, based on ComPair BlueWater Reporting database, as at 26 February 2012.

Notes:

1. A 'service' is a group of vessels operating on a single route according to a fixed schedule. A weekly service to Singapore requires 6-8 vessels.
2. Total of the nominal weekly capacity (in TEU) of each service on that trade lane. Where services call at ports in both Australia and New Zealand, the nominal weekly capacity of that service has been allocated 50:50 between the two countries.
3. Carriers (shipping lines) that contribute vessels to one or more services on that trade lane, in addition to selling container capacity on those services. Carriers may own or lease the vessel. Carriers may also contribute to multiple services; if so they are counted singly in this column.
4. Carriers that have capacity on one or more services on that trade lane, either through contributing vessels or via vessel sharing arrangements such as slot charters.
5. Only the services actually calling at the named ports are included in this table. Other carriers compete on these trade lanes via transshipment.

Do collaboration agreements lower the number of effective competitors?

One question for this inquiry is the effect of collaboration agreements between carriers on the competitive supply of services. Ratemaking agreements have the potential to support cartel behaviour that raises prices to the detriment of shippers (see Chapter 11). There are no conference agreements – the traditional form of

ratemaking agreement – on the trade lanes studied. The seven carriers selling services on the Long Beach routes are all covered by two discussion agreements. There is ongoing debate as to whether discussion agreements should be considered to be ratemaking or not; however the EU currently groups them with conference agreements and does not provide them with a block exemption from competition law.

How concentrated is the market share?

A second important question in making a competition assessment is whether market share is concentrated; ie, does one, or a small number of competitors have a sufficiently large market share that their pricing decisions affect the market price?

Tables Table 4.11 through Table 4.13 provide an indication of the market share of different services operating on these trade lanes. Capacity share is used in this instance as a rough proxy of market share. It will be inaccurate to the degree that different services have different proportions of utilised (ie, paying) capacity.

No single operator dominates market share in any of these trade lanes. The largest concentration of market share is the ANZEX service operated by CMA CGM and OOCL, with 59% capacity share between New Zealand and Shanghai. However, any combined ability to dominate this market will be constrained by indirect services; eg, those transhipped at Singapore.

Table 4.11 Capacity share by service – Singapore trade lanes

Type	Service name	Carriers	New Zealand capacity share ²	Australia capacity share ²
Alliances	NZS	Hapag-Lloyd/NYK/ OOCL/PIL/MOL	40	
	NZ1	Maersk/MISC	36	
	Boomerang	Maersk/MSK/Safmarine		15
Vessel / slot sharing agreements	NEMO/EAX	CMA CGM/Hapag-Lloyd		13
	FA 1	MISC/OOCL/PIL		14
	RSA	RCL/Hanjin/K Line		8
	AAX butterfly	APL/ANL/NYK		7
	SAL	UASC/Hapag-Lloyd/ CSCL/HMM		8
	AAT	MOL/MISC/PIL		16
Independent services	Capricorn	MSC	19	5
	Falcon	MSC		14
	East SE Asia Loop 2	Swire	5	

Source: Productivity Commission calculations, based on ComPair BlueWater Reporting database, as at 26 February 2012

Notes:

1. The carrier MISC has announced its intention to exit the international container line business.
2. The capacity shares are indicative only, because services to Sydney and Melbourne have been used to represent Australia as a whole, and services to Tauranga and Auckland have been used to represent New Zealand as a whole.

Table 4.12 Capacity share by service – Shanghai trade lanes

Type	Service name	Carriers	New Zealand capacity share ¹	Australia capacity share ¹
Alliances	Boomerang	Maersk/MSC/Safmarine		12
Vessel / slot sharing agreements	JKN	COSCO/Hamburg Sud/ NYK/MOL	28	
	ANZEX	CMA CGM/OOCL	59	
	CKA	Hanjin/Yang Ming/ STX PanOcean		17
	AANA	ANL/OOCL/CSCL		9
	SAS	COSCO/PIL		15
	AU2	MOL/K Line/ Evergreen Line/NYK		18
	CAX	PO Shipping/TS Lines/ Sinotrans		12
	Mandarin Service/ ACE	CSCL/OOCL		14
Independent services	China/Transpacific	PIL	13	4

Source: Productivity Commission calculations, based on ComPair BlueWater Reporting database, as at 26 February 2012

Notes:

1. The capacity shares are indicative only, because services to Sydney and Melbourne have been used to represent Australia as a whole, and services to Tauranga and Auckland have been used to represent New Zealand as a whole.

Table 4.13 Capacity share by service – Long Beach trade lanes

Type	Service name	Vessel-operating carriers ¹	New Zealand capacity share ³	Australia capacity share ³
Discussion agreements ²	PSW Hawaii Loop	Hamburg Sud/ANL	22	22
	PSW Main Loop	Hamburg Sud/ANL/ Hapag-Lloyd	46	46
	WAN/PNW	Hapag-Lloyd/ Hamburg Sud	32	32

Source: Productivity Commission calculations, based on ComPair BlueWater Reporting database, as at 26 February 2012

Notes:

1. Seven carriers – all members of both discussion agreements – sell capacity on these services: Alianca, ANL, CMA CGM, Hamburg Sud, Hapag-Lloyd, Maersk and USL-U.S. Lines.
2. The two relevant discussion agreements are: United States/Australasia Discussion Agreement (USADA) and Australia/New Zealand-United States Discussion Agreement (ANZUSDA).
3. The capacity shares are indicative only, because services to Sydney and Melbourne have been used to represent Australia as a whole, and services to Tauranga and Auckland have been used to represent New Zealand as a whole.

Does insufficient competition explain the price differential between Australia and New Zealand?

Liner shipping is a high fixed cost, low marginal cost industry. An unsold slot on a scheduled service can generate no revenue once the vessel has departed. This creates a strong incentive to sell otherwise empty slots at any price above marginal costs.⁴⁶ However, if all slots were sold at marginal price, the carrier would never cover their fixed costs, and would go out of business. In a competitive market, this tension between pricing to cover marginal cost and pricing to cover average cost is typically solved by price discrimination.

This cost structure is also shared by the passenger airline industry, and that industry is characterised by fierce competition even in markets with only two competitors.

Taken by itself, this cost structure tends to encourage rather than discourage competition. However, it can also encourage cartel behaviour – effectively lowering the number of actual competitors. Box 4.6 explores this possibility.

Box 4.6 Are shipping lines operating as a cartel in New Zealand and/or Australia?

A cartel is an association of competitors that by agreement limits the degree of competition that would otherwise prevail in the selling of services by members of the cartel. Cartels are illegal in many countries (including New Zealand); however, exemptions from normal competition law may allow cartels to operate legally in international container shipping services.

Firms have an incentive to collaborate to raise prices; however, individual firms also have an incentive to cheat on cartel arrangements, lowering their price below the cartel price to increase their market share and hence profits. This leads many cartels to break apart even without government intervention.

Carlton and Perloff (2005) list a number of factors that facilitate the formation and longevity of cartels. If those factors are not in place, then persistent cartel behaviour is unlikely. Table 4.1 assesses these factors in the context of international shipping services to and from New Zealand. This assessment indicates that many of the factors for successful operation of a cartel are not in place in the case of New Zealand.

In the context of the questions posed in this section, the factors identified are very similar in Australia. This leads to the conclusion that cartel behaviour by shipping lines is unlikely to explain the price differential between Australian and New Zealand sea freight costs.

Table 4.14 Factors affecting the formation and longevity of shipping cartels

Factor	Applies to New Zealand international container services?	Applies differently to Australia and New Zealand?
Inelastic demand curve	Partly (substitution possible through indirect services)	No
Barriers to entry by non-member firms	No	No
Low expectation of severe punishment (by governments or customers)	Yes	No
Ability for cartel members to detect cheating (ie, charging below the agreed cartel price)	No	No
Ability for cartel members to punish cheating by other members	Limited	No

⁴⁶ Marginal costs include administration, loading and unloading the container, and any extra fuel attributable solely to that container.

Homogeneous product (simplifies cartel pricing schedule and price monitoring)	Yes	No
Limited number of competitors (lowers cartel organisational costs)	Partly	Yes – more competitors on Australian trade lanes

F4.10

There are fewer services and fewer competitors for the New Zealand container shipping market relative to Australia.

4.4 Transit times and their costs

Transit times impact negatively on the competitiveness of New Zealand exports in global markets. Transit times are an important aspect of freight costs, particularly in a relatively distant country such as New Zealand. Longer transit times can entail significant en-route spoilage and opportunity costs of capital tied up in goods in transit. Relatively long transit times can also increase the cost of imported goods, with negative implications for consumers, and manufacturers that use imported intermediate goods.

New Zealand's distance to markets and associated high transit times may be one reason for low levels of trade in intermediate goods, despite the global trend towards more segmented production chains.

The relatively long transit times faced by New Zealand importers and exporters is most likely to have a larger impact on the value of traded goods than other trade barriers, such as tariffs. For instance, Hummels (2007a) estimates that a one-day cut in transit time would reduce the price of imports into New Zealand by 1%, implying a total transit time cost that is much higher than New Zealand's average tariff on imports of 2.2%. For exports, the daily time cost is estimated to be 0.6%, suggesting 20 days of transit time is equivalent to a 12% tariff, compared with the average tariff faced by New Zealand exporters of 8.7%.

In reality the costs of transit time are not linear: for example, the costs for perishable goods such as chilled meat face a shipment time threshold where the value of the good falls to zero beyond a certain date. On the other hand, products that are neither perishable nor subject to fluctuations in demand incur very low transit time costs. Products like coal may only incur financing costs while in transit – perhaps 10% per annum.

Time requirements for import and export procedures

It is difficult to reduce transit times without significantly increasing freight costs by, for example, switching from sea to air transport. However, significant gains may be made through greater facilitation of trade via, for instance, reducing documentation requirements and customs processing times. The time requirements for New Zealand import and export procedures are below the OECD average, based on the World Bank's *Doing Business* report (Table 4.15).⁴⁷ However, New Zealand is behind the international best practice standard, which is set by Singapore. The Trade Single Window project (discussed in Chapter 7) provides an opportunity for further improvement.

F4.11

The number of days taken to complete New Zealand's export and import requirements compares well with other countries, but is behind international best practice.

⁴⁷ The *Doing Business* reports relates to sea freight. However, for elements such as document preparation, customs and inland transportation, it is likely that the time involved is similar for air freight. For a discussion of the limitations of the methodology, see section 4.2.

Table 4.15 Number of days to complete export and import requirements

	Export procedures (days)				Import procedures (days)			
	New Zealand	Australia	OECD average	Singapore	New Zealand	Australia	OECD average	Singapore
Document preparation	5	5	4.9	1	5	3	5.3	1
Customs	1	1	1.3	1	1	1	1.5	1
Terminal handling	2	1	2.1	1	1	2	1.9	1
Inland transport	2	2	2.2	2	2	2	2.1	1
Total	10	9	10.5	5	9	8	10.7	4

Source: World Bank and International Finance Corporation, 2011

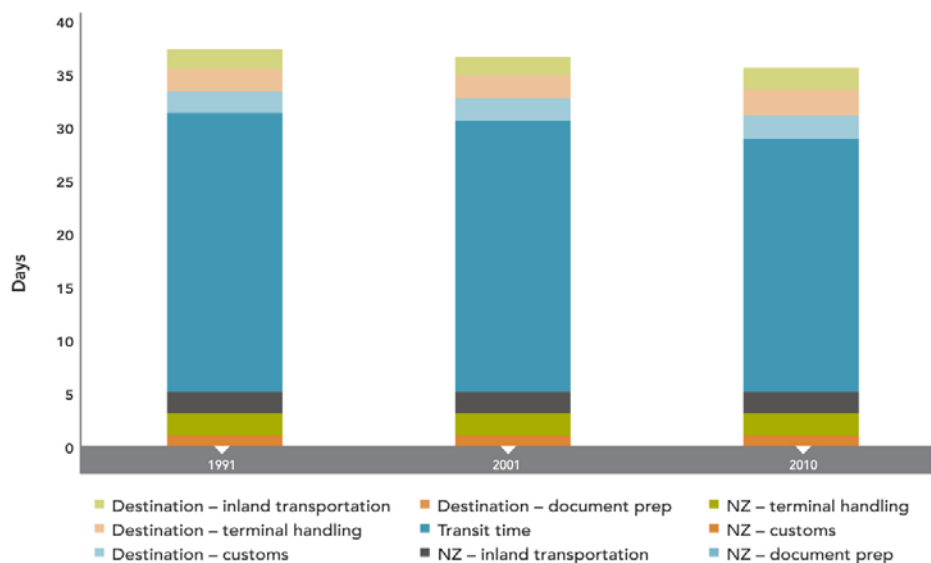
Notes:

1. New Zealand and Australia have relatively strong biosecurity arrangements compared to other countries.

Transit times for exports

The importance of transit times for New Zealand exporters is highlighted by two examples – Zespri and chilled meat. Zespri is a coordinated industry that has invested in its freight logistics chain to ensure a reliable supply to international markets (see Box 1.1 in section 1.2). On the other hand, the meat industry is fragmented with a less coordinated supply chain. Chilled meat is a time-sensitive product that is transported to mostly European markets, and the Meat Industry Association (sub. 52) highlighted difficulties with practices such as ‘slow-steaming’ of ships to save fuel.

A typical New Zealand export consignment shipped by sea is estimated to take about 35 days on average to go from one end of the supply chain to the other in 2010. About two-thirds of that time is spent at sea; almost one-fifth is spent on the destination countries’ onshore import procedures; and the remaining five days were spent on New Zealand onshore processes (Figure 4.20).

Figure 4.20 Time to complete New Zealand’s sea freight export supply chain: 1991-2010

Source: Productivity Commission calculations using Statistics New Zealand, World Bank and ComPair data

Notes:

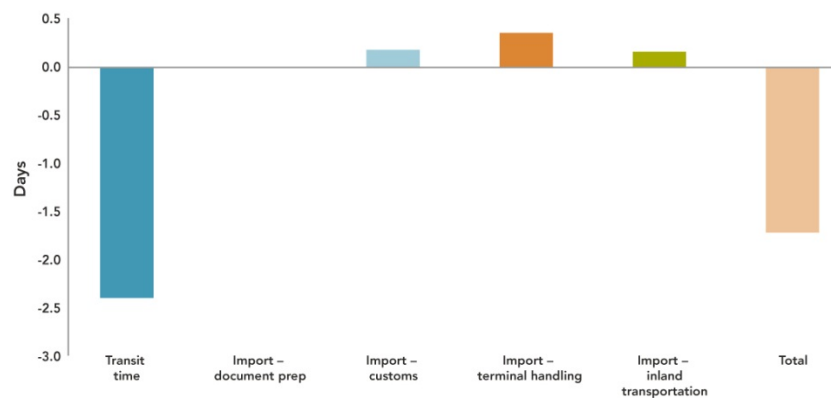
1. Documentation time is assumed to occur at the same time as other export/import procedures, and only adds to elapsed time if it takes longer than other export/import procedures. This adjustment will still tend to overstate total time in cases where

documentation can be prepared in advance of starting those other procedures, for example for regular, planned shipments. In those cases the effective contribution of documentation preparation time to total transit time will generally be zero.

- Information on the number of days required to complete trade-related procedures from the World Bank's *Doing Business* is combined with transit times for sea freight from ComPair. The World Bank data covers only the 2006-2010 period; so for those years the logistics data varies. For all years before 2006, the World Bank 2006 data is used. Transit time data is not available over time, so this remains constant across all years.

Transit times have decreased over the last 20 years as a greater share of New Zealand's exports have gone to more proximate trading partners, particularly in Asia (Figure 4.21). There has been a slight increase in the time taken to complete customs, terminal handling and inland transportation. So, although New Zealand's new export destinations are less distant, they tend to have more time-consuming import processes. For example, these components of the supply chain for exports to China and Indonesia take 9 and 12 days respectively, compared with 3 days for the USA.

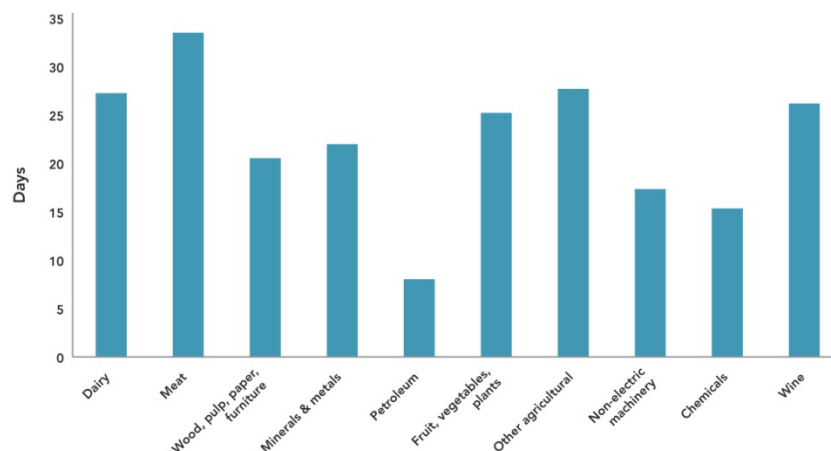
Figure 4.21 Changes in time to complete components of New Zealand's sea freight export supply chain between 1991 and 2010



Source: Productivity Commission calculations using Statistics New Zealand, World Bank and ComPair data

Different products within New Zealand's export basket are sent to different geographic markets. As a result, average transit times differ by product. Timely delivery is crucial when goods are subject to rapid depreciation (such as fresh produce), or when demand is uncertain, but less important for bulk commodities and simple manufactures. Some of New Zealand's most time-sensitive exports are destined for more distant markets and subsequently have the longest transport times. For example, petroleum, which is one of the least time-sensitive products, takes 18 days to transport on average, while meat has the longest transit time because New Zealand's main meat markets are in Europe and North America.

Figure 4.22 Transit times for New Zealand's top ten export products: 2010



Source: Productivity Commission calculations using Statistics New Zealand, World Bank and ComPair data

Notes:

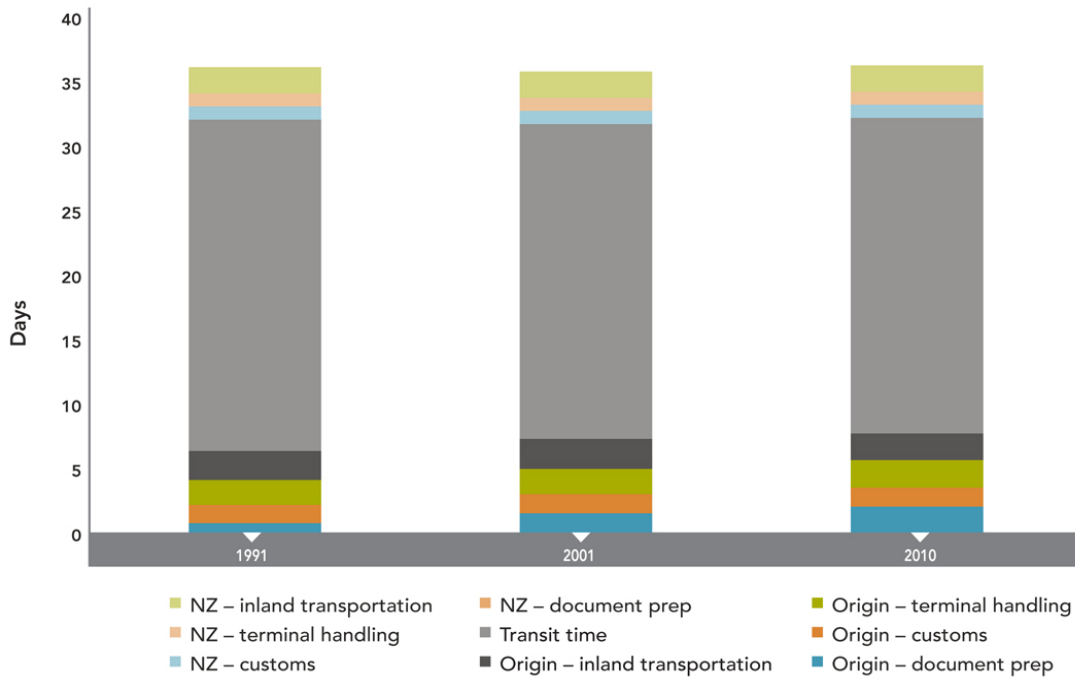
- ComPair provides port-to-port sea freight data, which allows the calculation of transit times between New Zealand and its trading partners. These transit times vary only by the destination and not by product type.

Transit times for imports

New Zealand containerised sea imports are estimated to take 36 days to travel from warehouse-to-warehouse.⁴⁸ Over two-thirds of that time (or 24 days) is spent at sea, one-fifth (eight days) is spent completing onshore processes in the origin countries, and the remaining four days are spent on New Zealand onshore processes.

As with New Zealand's exports, other than transit time, the most time-consuming stage of the logistics chain is related to the processing times in the country of origin. Continuing to work with trading partners to improve trade facilitation may improve this. There is room to improve domestic procedures, even though New Zealand is performing well in comparison with many other countries.

Figure 4.23 Time to complete New Zealand's containerised sea freight import supply chain: 1991-2010



Source: Productivity Commission calculations using Statistics New Zealand, World Bank and ComPair data

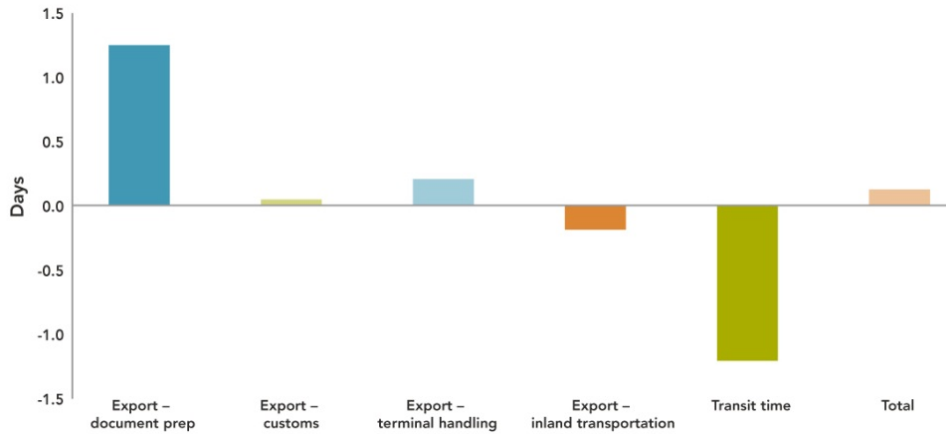
Notes:

- Documentation time is assumed to occur at the same time as other export/import procedures, and only adds to elapsed time if it takes longer than other export/import procedures. This adjustment will still tend to overstate total time in cases where documentation can be prepared in advance of starting those other procedures, for example for regular, planned shipments. In those cases the effective contribution of documentation preparation time to total transit time will generally be zero.
- Information on the number of days required to complete trade-related procedures from the World Bank's *Doing Business* is combined with transit times for sea freight from ComPair. The World Bank data covers only the 2006–2010 period; so for those years the logistics data varies. For all years before 2006, the World Bank 2006 data is used. ComPair transit times for each trading partner are available, but only for one point-in-time. Total transit times are calculated by weighting transit time data for each trading partner by trade volumes. So while point-to-point transit times are not available over time, total transit can change over time if the composition of New Zealand's trading partners changes.

Reductions in transit times from New Zealand's shift to importing from closer trading partners have been more than offset by increases in the longer export process times of these countries. The time required to import an 'average' consignment of goods from New Zealand's trading partners increased slightly (0.1 days) between 1991 and 2010 (Figure 4.24). The strengthening of security measures after 9/11 may also have contributed to the increase in transit time (Meat Industry Association of New Zealand, sub. DR084, p. 2). Chapter 7 discusses border control arrangements.

⁴⁸ Time at sea is estimated from ComPair data. Data about onshore processes are from the World Bank's *Doing Business* report. Industry sources indicate that these times may not accurately reflect actual transit times experienced by importers. This may be due to the *Doing Business* methodology, which is based on a small sample of respondents.

Figure 4.24 Changes in time to complete components of New Zealand's sea freight import supply chain between 1991 and 2010



Source: Productivity Commission calculations using Statistics New Zealand, World Bank and ComPair data

F4.12

There is scope for improving customs procedures and documentation requirements, even though New Zealand is performing reasonably well in these areas. Continuing to work with trading partners to improve trade facilitation could reduce transit times.

5 Impediments to competition in international freight

This chapter identifies impediments to competition within and between the components of the international freight supply chain. It also examines factors that limit efficient coordination between components.

Key points

- Competitive pressures provide incentives for firms to meet the transport needs of their customers in the least costly ways.
- Impediments to competition in components of the international freight transport supply chain include potentially anti-competitive practices in international shipping that are exempt from competition law, and port governance arrangements.
- Coordination between components of the supply chain is important because the efficiency of one component of the supply chain often depends on the efficiency of other components.
- Participants have identified opportunities to improve coordination, although most seem to be issues for commercial resolution. These opportunities include combination of freight shipments, minimisation of empty containers, timing of bill payments, and reducing truck waiting times at airport freight handling facilities.

5.1 Competition and operational efficiency

The Commission focused on identifying impediments to competition

Competitive pressures provide incentives for transport operators to meet the transport needs of their customers in the least costly ways (see Chapter 2). The strength of these pressures depends on characteristics of the market within which firms are operating, such as the number and size distribution of firms in the industry, barriers to entry faced by new firms seeking to enter the market, the characteristics of customers, and the industry's technology.

Analysing the ways in which these factors interact and the performance outcomes that they generate in particular markets is a complex task that would be too large for this inquiry to undertake. Rather, the terms of reference require the Commission to undertake the narrower task of identifying impediments to competition. For this analysis, the Commission considers that it is useful to classify three types of impediments to competition, depending on whether they are:

- inherent in the economic geography of the sector (eg, the small size of New Zealand's population in relation to the economies of scale in airports means that there are inherent impediments to market entry by new airports);
- the result of potentially anti-competitive behaviour by market participants; or
- caused by regulatory or other government interventions.

While the analysis reveals examples of all three types of impediments, the Commission has focused on the last two as the first type is generally not amenable to policy intervention. The Commission's approach to the second type is to consider whether certain potentially anti-competitive practices should be permitted. The third type of impediment, having been created by government, can be removed, should it be

demonstrated that the public policy case for the impediment no longer exists (or can be better dealt with by another mechanism).

The existence of these impediments is considered for sea freight, road freight, rail freight, air freight, and for services to the transport sector as a whole.

Certain international shipping lines agreements are exempt from competition law

New Zealand is relatively well served by liner shipping operators, with nine of the largest sixteen shipping companies operating regular liner services to New Zealand. New Zealand shippers can also charter bulk cargo vessels on an open international market.

Historically, various types of agreements between liner shipping carriers have been exempt from the full application of domestic competition laws in New Zealand and in many other countries. The policy rationale for this exemption is that the combination of high fixed costs, the need to maintain a schedule, the consequent excess capacity that could arise, and fluctuating and diverse demand could lead to 'destructive competition' and price wars that would undermine the reliable supply of shipping services. This could happen as prices fall to short-run marginal cost in times of excess supply, leading to returns that are not large enough to cover long-run marginal costs. The fear is that this could lead to some carriers monopolising the trade.

Because potentially anti-competitive practices are exempted from competition law, this part of the transport supply chain has a possible impediment to competition that the government has endorsed. It therefore sits squarely within the terms of reference for this report. Chapter 11 analyses the benefits and costs of this exemption.

Coastal shipping struggles to compete with other transport modes

International shipping lines calling at many New Zealand ports provide the majority of coastal container shipping services. Few New Zealand ships are involved. This has been the case since 1994, when section 198 of the Maritime Transport Act enabled owners of non-New Zealand-flagged international trading ships to move cargo between New Zealand ports as part of an international voyage (Rockpoint, 2009, p.94). The main regulatory impediment to competition in coastal shipping is the requirement that, for immigration purposes, international ships and their crew must exit local waters before a 28-day period has elapsed (Rockpoint, 2009, p.94).

Submissions argued that coastal shipping cannot successfully compete with other transport modes such as road and rail under current arrangements. Section 13.1 assesses impediments to competition in coastal shipping.

There are potential regulatory impediments to competition between ports

New Zealand's fourteen ports are an important part of the international freight transport supply chain. While it is difficult to be precise, one estimate puts port charges at around 6% of total logistics costs for New Zealand businesses (Ministry of Transport, 2010b).

As described in Chapter 3, New Zealand's ports perform different functions. Some ports have a large degree of geographical monopoly over bulk cargo sourced from, or destined to, that port's hinterland. Many of the smaller ports are specialised for particular bulk cargos (for example, oil at Marsden Point, bauxite at Bluff). Land transport enables ports to compete for higher-valued goods, typically containerised cargo.

The Port of Tauranga has a railhead in Auckland that acts as an 'inland port'. Inland ports can increase the reach of a port and hence the size of its effective hinterland. Inland ports can also improve efficiency of port operations in instances where there are bottlenecks at the port due to land transport, land area (for storage) or border-clearance issues. Ports of Auckland operate an inland port at Wiri for these sorts of reasons.

The Commission has observed two ways in which government regulatory frameworks may impede competition between ports.

- The governance arrangements within which ports operate are likely to affect major investment decisions, the introduction of new work practices, and moves to partner or merge with other owners or new entrants. Work practices are discussed in Chapter 6 and governance arrangements are discussed in Chapter 10.
- Environmental approval processes may be needed before ports can undertake significant investments. These processes are discussed in Chapter 8.

Contestability of stevedoring and marshalling is limited at most ports

Port companies can either provide stevedoring and marshalling services themselves, with their own equipment and workforces, or contract them out to independent providers. In New Zealand, there is greater choice of stevedoring and marshalling services for bulk and break-bulk cargoes (which are handled largely by third parties) than there is for container cargo (which is handled largely by port companies or their subsidiaries).

The Port of Tauranga, the largest port in New Zealand in terms of gross volume of freight, has the greatest number of competing stevedoring and marshalling service providers. At the Port of Tauranga, stevedoring and marshalling firms compete to obtain contracts with either shipping lines or exporters and importers to load and unload non-containerised freight between ships and inland transport. The Port itself uses two competing stevedoring firms for container freight.

Other ports have fewer service providers operating. Appendix F lists the providers of stevedoring and marshalling at New Zealand's ports.

Labour relations and unions play an important role in the provision of stevedoring and marshalling. This issue is addressed in Chapter 6.

A question for this inquiry is whether ports have incentives to refuse access to their facilities by potential providers of stevedoring or marshalling services. Such incentives would constitute an impediment to competition that might be addressed by the government putting in place stronger arrangements to facilitate access. Chapter 13 considers whether there is a need for such arrangements in New Zealand.

There are potential regulatory impediments to road freight competition

Some participants have suggested that regulation covering High Productivity Motor Vehicles (HPMV) is an impediment to competition. HPMV can carry longer and/or heavier loads, but they must have a permit that is issued by road-controlling authorities (mostly local councils for local roads and the New Zealand Transport Agency for the state highway network). This issue is discussed in Chapter 13.

Rail faces competition from road freight

KiwiRail is New Zealand's only provider of rail services but faces competitive pressure from road transport. Rail has an advantage over road in transporting bulky goods such as coal over long distances. However, rail competes with coastal shipping in these markets. These goods represent a small proportion of overall freight traffic.

In addition, while road competes with rail, the reverse is not the case. Rail is not a serious competitor for the majority of road freight traffic. Road serves customers directly and can access much more of New Zealand's land area than rail (see Chapter 13).

In its 2010 Budget, the Government agreed in principle to invest \$750 million in the KiwiRail Turnaround Plan. In this announcement, the Government noted that the Plan is designed to preserve and enhance New Zealand's national rail freight network and move KiwiRail towards full financial self-sufficiency within 10 years, meaning that it will be able to fund its ongoing operating and capital costs from customer revenue.

In respect of freight, the Turnaround Plan notes:

Increasing the amount of domestic freight carried on the Auckland-Christchurch route is critical to the growth and sustainability of the freight business. Other routes are busy and important. But in most cases, rail is already relevant and growth depends on some other factor – like natural growth in the economy (KiwiRail, 2010a).

Chapter 10 discusses governance of KiwiRail.

International airlines competition is regulated but there are exemptions

Air freight is mainly carried to and from New Zealand in passenger aircraft bellyholds. Competition in international air services is regulated in New Zealand by both the Commerce Act 1986 and the Civil Aviation Act 1990. Together, these Acts make up the 'competition regime' for international air services in New Zealand. However, certain international air services trade practices can be exempted from the Commerce Act's prohibitions on restrictive trade practices if they meet criteria in the Civil Aviation Act and are authorised by the Minister of Transport.

Chapter 12 considers the regulation of competition between airlines carrying freight to and from New Zealand.

There is limited scope for competition between international airports

Airports tend to be geographical monopolies, due to their large fixed costs, network effects and barriers to entry. As a result there is limited scope for international freight competition between Auckland, Wellington and Christchurch International Airports.

The Commerce Commission's 2002 inquiry into airfield activities still appears relevant to Auckland, Wellington and Christchurch International Airports. The inquiry made the following comments about competition for airfield services:

- There are high barriers to entry. The nature of the investment in a major airport facility, such as those at Auckland, Wellington and Christchurch, is such that barriers to entry are high, and hence competition from potential entrants is limited.
- There is low competitive restraint from smaller local airfields. There is some scope for supply-side substitution for general aviation aircraft given the presence of small airfields in the vicinity, but not for larger (commercial) aircraft.
- There is low competitive restraint from other international airports. Demand is driven by the destination to which passengers/shippers want to go.
- There is low competitive restraint from other transport modes. Alternative modes of transport are also unlikely to provide a constraint on the behaviour of airport companies.

Commerce Commission, 2002, p. 18

As with ports, a question for this inquiry is whether airports have incentives to refuse access to their facilities by potential providers of other services (such as freight handling services) at the airport. Chapter 13 considers this issue, as well as the regulation of the market power of major airports through disclosure of information.

Government regulations are not impeding competition between CTOs

As noted in Chapter 3, Cargo Terminal Operators (CTOs) load and unload freight at airports. Competition between CTOs should lower the cost of freight handling for exporters and importers, improve the speed of handling, and minimise freight damage. Auckland and Christchurch Airports are each served by two CTOs – Menzies Aviation and Air New Zealand.

There do not appear to be barriers to entry for a new CTO at either airport. The CTOs also seem capable of effectively challenging each other for airline contracts as they come up.

Several submissions to the inquiry noted potential competition issues with respect to CTOs. The Customs Brokers and Freight Forwarders Federation of New Zealand (CBAFF) considered that limited space and commitment from airport authorities hinder growth (sub. 17). The Air Cargo Council noted that a bar to a CTO starting up in Auckland would be lack of a suitable site, lack of volume and high setup costs (sub. 8). The BARNZ submission considered that freight-related services at airports are subject to no or little competitive pressure (sub. 36).

Auckland International Airport's submission to the draft report offered a different view (sub. DR79, p. 3). The Airport noted:

There would be no barrier from Auckland Airport's perspective that would prevent that party increasing its cargo handling activities were it to achieve commercial agreements to support those activities. It is not the airport that determines who will handle cargo for a particular airline, that is a commercial arrangement between the relevant parties.

Auckland International Airport, sub. DR79, p. 2

The New Zealand Airports Association expressed a similar view:

The situation has not arisen where a CTO has requested access to airport space and been denied, recognising of course that the commercial terms for access are negotiated between the airport and the CTO.

New Zealand Airports Association, sub. DR96, pp. 4-5

Nonetheless, situations can arise in which infrastructure owners have an incentive to refuse access to their facilities. Regulation around access issues is discussed in Section 13.2.

Government regulations are not impeding competition between freight forwarders

As noted in Chapter 3, there are about 300 freight forwarders in New Zealand, with 10 of them handling most of New Zealand's exports. This large number of participants may indicate that barriers to entry are low, because it is clearly possible for firms to succeed on a small scale.

Government regulations or other policy settings are not impeding competition between freight forwarders. In its draft report the Commission asked if there were impediments to competition in freight forwarding that could be reduced by government intervention, and what would be the costs and benefits of reducing these impediments. The Ports of Auckland submission responded that "there are no impediments requiring government intervention that we are aware of" (sub. DR104, p. 22). No other submissions raised concerns in response to this question.

Parts of customs and biosecurity services are contestable

Customs and biosecurity services are provided by the New Zealand Customs Service and the Ministry of Agriculture and Forestry. Parts of these services are contestable,⁴⁹ but others are not. Chapter 7 considers customs and biosecurity issues.

5.2 Coordination and operational efficiency

Freight services are well coordinated but there is room for improvement

Competition is one important means of achieving efficient freight transport services, but coordination is equally important because the efficiency of one component of the supply chain often depends on the efficiency of other components. For example, service improvements in one component of the supply chain can lead to an increase in demand for services in other components. Conversely, a reduction in the quality of one component can cause hold-ups for other components.

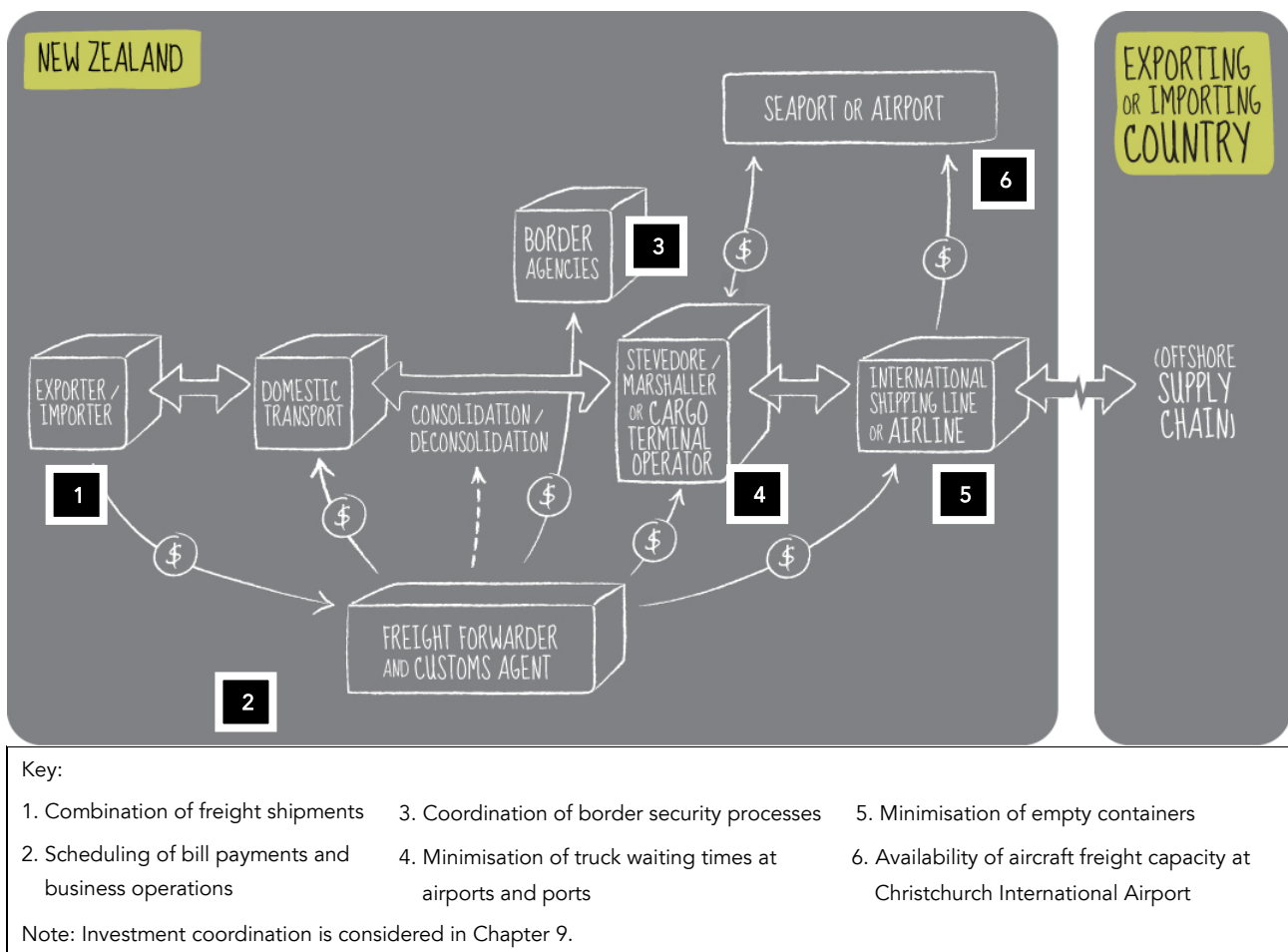
⁴⁹ Ministry of Agriculture and Forestry (MAF) contracts out the delivery of many of its biosecurity services, or has internal contracts or memoranda of understanding with other parts of MAF – for example, border control and quarantine services, and disease investigation (Office of the Controller and Auditor General, 2002).

There may be too little coordination if the benefits of coordination cannot be sufficiently retained by the firms that bear the cost of coordination. On the other hand, some coordination may be harmful, as in the case of coordination by cartels to jointly fix prices without offering any offsetting efficiency benefits.

This section reviews six coordination issues that have been raised in the inquiry, in order to identify if any improvements could be made to increase freight efficiency. These coordination issues are shown in the diagram below.

The Commission's general impression from reviewing these issues is that international freight services are well coordinated and that there are market-led solutions to many of these coordination issues. However, there is an opportunity for some improvements in a number of areas, which together may increase the efficiency of the freight supply chain.

Figure 5.1 Freight coordination issues identified in the inquiry



There are good models for efficient combination of freight shipments

The combination of freight shipments by exporters or importers often enables them to reduce their unit freight costs by increasing the utilisation of container space and increasing the bargaining power of exporters and importers with respect to shipping lines and airlines.

Many freight forwarders provide freight combination services to exporters or importers, by consolidating less-than-container-load shipments into containers at the forwarder's warehouse, before transporting the container to a port or airport. Freight forwarders can also assist smaller exporters or importers to secure more favourable international shipment rates, as these forwarders deal frequently with shipping companies and airlines and should have some bargaining power.

Exporters and importers can also collaborate to combine freight shipments without specialist freight forwarders. One instance of this has recently been considered by the Commerce Commission, with respect

to the freight coordination arrangement being proposed by Fonterra Co-operative Group Limited in consultation with Silver Fern Farms.

Fonterra and Silver Fern Farms propose to form a limited partnership, Kotahi Logistics, to improve the efficiency of their freight logistics. The proposal envisages other companies joining the collaborative arrangement. Fonterra applied to the Commerce Commission seeking authorisation of agreements involving Kotahi Logistics.

According to the proposal, Kotahi would procure and manage the provision of containerised freight services on behalf of contracted exporters and importers. This would include the transport of containers to and from ports by road, rail or coastal shipping, and contracting with international shipping lines. Kotahi would also pool and coordinate the container freight volumes of its contracted exporters and importers through fewer ports. The aim of this is to leverage scale to deliver better service and potentially achieve cost savings (Commerce Commission, 2011b, p.2).

The Commerce Commission released a draft determination on the Fonterra application on 16 December 2011. On 15 March 2012, it released a final determination confirming its draft determination.

The Commerce Commission considered that the Kotahi arrangements were unlikely to result in a lessening of competition. However, in its draft determination, it considered that the public benefits of the arrangements were not extensive:

The [Commerce] Commission's preliminary view is that the only likely public benefit arising from Kotahi relates to its increased countervailing power. Such countervailing power would likely enable Kotahi to negotiate lower prices for containerised ocean freight. The Commission has not quantified the extent of this benefit.

At this time, the [Commerce] Commission is not convinced that the other benefits claimed by Fonterra would result from, or are dependent on, Kotahi. Critically, the Commission is not satisfied that the Kotahi arrangements would be likely to significantly hasten the arrival of bigger ships to New Zealand, relative to the counterfactual [ie, Kotahi continuing with Fonterra as sole limited partner and without implementing the Kotahi arrangements]. Other rejected benefits are:

- Improved efficiencies in intermodal freight services.
- Reduced costs of providing services for containerised ocean freight to/from New Zealand.
- Reduced greenhouse gas emissions.
- Reduced inefficient infrastructure spending.

Commerce Commission, 2011a, p. 10

Markets should be able to resolve scheduling issues

Inquiry participants identified two freight scheduling issues relating to the timing of bill payments and the opening hours of freight businesses.

Bills in New Zealand are frequently due for payment on the 20th of the month following the receipt of an invoice, which is not the general practice in other countries. The Commission heard that one implication of this is that many businesses want to get their goods on the first day of the month, in order to maximise the time they have to sell these goods before payment is due, and thereby minimise their cash-flow requirements. This can generate bottlenecks in freight deliveries at the start of each month.

The Commission considers that there are market mechanisms to address these bottlenecks, if they are creating inefficiencies. For example, domestic transport companies could charge higher prices for moving goods at the start of the month.

The second scheduling issue relates to the conduct of business operations more generally. The Port of Napier noted:

A significant inefficiency for many New Zealand ports is the inability of the majority of New Zealand container shippers, importers and exporters to operate much more than standard Monday-Friday business hours.

Ports in contrast operate 24/7, at least for working of vessels and have much greater capacity to receive exports and deliver imports than is currently the case. A 7 day a week receipt and delivery gate operation is not viable in most New Zealand ports for the lack of demand, especially on Saturday (afternoon) and Sunday.

One consequence of the mismatch in demand and supply is terminal operators having to invest in plant and equipment at a higher level to serve a 5-6 day gate operation; if the demand was more evenly spread over 7 days a lower level of plant and labour would be needed.

These comments also cover the availability of border agency staff to provide a level of service that keeps the flow of (import) containers moving smoothly. A limit on border agencies staff numbers and hours of work does lead to inefficiencies.

Port of Napier, sub. DR 93, p. 4

As with bill timing issues, parties should be able to address this issue through differential charges or other contractual arrangements. Businesses are not generally constrained to operate standard business hours and may consider changes to their schedules if there are incentives for doing so.

Similarly, border agencies generally charge exporters and importers for the cost of border control services. If exporters and importers need additional border staff or longer work hours, they would have to pay for these additional services.

Coordination of border control processes can improve freight services

Several submissions suggested that border control agencies need to coordinate their operations more closely, to improve the level of service to exporters, importers and the freight industry. Chapter 7 discusses how the border agencies are creating a 'trade single window' across their operations and how this will facilitate coordination. It also discusses coordination between New Zealand's border control agencies and their overseas counterparts.

There are opportunities for slot booking systems at airports and ports

The Commission heard that trucks wait outside airport CTO facilities for long periods of time before loading and unloading freight. The submission by the Customs Brokers and Freight Forwarders Association reported "trucks queuing for many hours every morning resulting in additional costs incurred by forwarders which is then passed on to customers" (sub. 17, p. 2). This was supported by views in some of the Commission's engagement meetings.

This view was not universally held. The Air New Zealand CTO advised the Commission that dwell times at its CTO were not long. It cited delays of up to 1–2 hours during the peak time and considered that for the majority of the time, the waiting time is 20 minutes.

While the Commission does not have sufficient information to determine if queuing is having a material impact on the efficiency of the freight supply chain, it has considered possible reasons for queuing.

- There are particularly busy periods of the day with respect to aircraft landing schedules, due to New Zealand's geographical position in relation to the countries it trades with. Airlines on Asian routes aim to get back to home base by the end of the day and so aircraft all arrive around the same time in the middle of the day. Airlines on Australian routes aim to do two return trips over the Tasman each day, and so also land close together.
- CTOs have advised the Commission that the current facilities and road accesses for freight movement around the airports are not ideal. It is also possible that because airports do not earn revenue directly from freight operations, their incentive to optimise the facilities for moving freight around the precinct may be muted.
- CTOs themselves may not have an incentive to reduce truck waiting times, if the costs of waiting are incurred by truck drivers. These drivers do not have a choice of CTO and may not have significant leverage over freight decisions by exporters or their freight forwarders.

- Airlines may be exacerbating the problem. The Commission heard from one CTO that airlines give some freight forwarders extensions to the normal deadline for delivering freight to the CTOs for loading onto aircraft. This can place pressure on the CTOs, which may result in delays for other trucks waiting to drop freight off.

A slot booking system could be a useful way to improve the efficiency of truck waiting times at CTOs. Ports of Auckland has recently introduced a vehicle booking system that requires trucks to book slots in advance for picking up and dropping off containers. The booking system encourages off-peak truck travel, with the aim of smoothing the workflow at the port to avoid bottlenecks at peak traffic times.

However, the Air Cargo Council submission argues that while slot booking systems work well at seaports, they may not work well at airports. While trucks tend to pick up large single consignments such as containers at seaports, they tend to pick up multiple smaller consignments at airports. The result, according to the Air Cargo Council, is “congestion at the CTOs premises because the contract truck drivers are picking up large numbers of shipments which are destined for many different forwarders” (Air Cargo Council, sub. DR67, p. 4).

Trucks with multiple consignments might take longer to process at CTOs and increase congestion, but the extra processing time is not a barrier to a slot booking system. If anything, the added processing time and congestions makes the case for a slot booking system stronger.

Potentially, the use of a single ‘contract truck driver’ by many different freight forwarders might make slot booking more complex than the use of one truck by one freight forwarder. Some coordination may be necessary to determine whether freight forwarders or truck drivers book the slots. This does not negate the case for slot booking at airports, but it does explain why such systems may take more effort to set up at airports than seaports.

F5.1

Episodes of significant truck queuing at Auckland Airport suggest poor coordination, leading to low operational efficiency. There is scope for market participants to address this issue, through coordination mechanisms such as a slot booking system with variable charges.

Several submissions endorsed the need for a coordination mechanism such as a slot booking system for Auckland Airport, and for ports in New Zealand more generally. The Auckland Council noted:

The 2010 Auckland Regional Land Transport Strategy forecasts Auckland regional freight movements to grow by 68 percent between 2006 and 2031. Most of this increase is due to occur by road. Given the expected growth in international freight, the Council supports freight coordination to maximise freight’s productivity, and to minimise its congestive potential and environmental impact.

Auckland Council, sub. DR60, pp. 14-15

The New Zealand Chamber of Commerce and National Road Carriers expressed similar views (see sub. DR64, p. 7 and sub. DR75, p. 3). The National Road Carriers submission also suggested ways to improve vehicle booking systems.

There are industry initiatives to address empty container costs

The Commission frequently heard that trucks, rail wagons and ships carried significant numbers of empty shipping containers on one leg of a journey, due to the imbalance in traffic requirements to and from New Zealand and within New Zealand.

One potential solution presented to the Commission was to enable different shipping lines to use unbranded containers. Currently, shipping lines have their own branded containers and will largely only deal with their own empty containers. The Commission heard that a ‘grey box’ model of unbranded containers might minimise the number of empty containers by improving the utilisation of containers.

The Commission understands that the ‘grey box’ model has had limited success globally. Shipping companies also operate a container interchange service, but this has had limited use internationally. One

issue is the cost of surveying containers between interchanges, a practice which is similar to checking a rental car before and after use. Surveys of containers are important because containers can suffer damage from handling by machinery or leakage of freighted items such as hazardous chemicals.

The imbalance in container traffic is a common international occurrence and the industry has adopted a number of initiatives to address these costs, in addition to the limited use of 'grey box' models and interchange. While these initiatives do not eliminate the transport costs of empty containers (which is unrealistic given the trade flow imbalances), they should reduce the costs and improve overall freight efficiency. The International Transport Forum provided examples of some of these practices:

- Shipping lines use IT solutions to manage global container flows, taking into account the effects of global trade imbalances.
- Lines may also get information on other lines' regular flows, so as to know where useful surpluses and/or deficits may arise.
- Lines build up relationships with inland transport operators who move their containers to where they are needed free of charge. In return the inland operator gets free one-way use of the container.
- Lines lease containers by 'master leases', which allow carriers to pick up/drop off containers at will, transferring the repositioning problem to the leasing company.

International Transport Forum, 2009

There is a potential regulatory constraint on supply of aircraft freight capacity

A submission by Christchurch International Airport (CIAL) makes a case for increasing the volume of freight flying in and out of Christchurch (sub. 39). The submission argued:

- There is a gap between the potential volume of air freight through CIAL and the actual volume of freight (the potential volume is estimated on the basis of population and economic activity rates in and around Christchurch).
- Based on CIAL's estimates of the potential volume, the airport is currently handling only half the volume of the potential exports it could handle.
- This situation is not optimal because some freight must be transported to Auckland and some export/import does not happen at all.

The CIAL offered several possible reasons for the capacity gap in its submissions to the freight inquiry, which can be summarised as follows:

- There is insufficient coordination between market participants.
- There is an insufficient supply of dedicated freighter services to the South Island.
- There are regulatory constraints on the supply of bellyhold freight capacity by passenger aeroplanes.

Insufficient coordination between market participants

CIAL's submission argued that the capacity gap could be closed by better coordination between the demand and supply sides of the market. It argued that exporters would make more investment commitments if they knew the air freight capacity that would be available, and airlines would commit to more flights if they had greater certainty about freight volumes (sub. 39, p. 3).

It is not likely that passenger airlines would commit to more flights on the basis of greater certainty about freight volumes. As the CIAL's submission acknowledged, airlines set their flight schedules with a focus on passenger business. The resulting bellyhold freight capacity is a by-product of this scheduling decision.

It is more likely that a dedicated freighter would commit to flights in and out of Christchurch if it had a strong signal that there was adequate demand for such a dedicated freighter service. A dedicated freighter service would come at a higher unit cost (see the discussion of the supply curve for air freight in Chapter 4).

If exporters are willing to pay for a dedicated freighter service, they should be able to effectively signal this to airlines directly or through a 'consolidation agent' such as an agricultural cooperative or a freight forwarder.

Insufficient supply of dedicated freighter services to the South Island

CIAL does not agree that additional capacity could be supplied by dedicated freighters. It argued that there are "an insignificantly small number of niche dedicated cargo carrying airlines. These specialist airlines generally operate in the Northern Hemisphere, or in large trading countries - in markets distant from Christchurch" (CIAL, sub. DR86, p. 14). It provided the following reasons why dedicated freighter services to the South Island are unsustainable:

- the seasonality of imports and exports;
- the range of global markets from which imports come, and to which exports go; and
- the small and fragmented nature of shipments by South Island importers and exporters (relative to their North Island and international equivalents).

CIAL, sub. DR86, p. 17

CIAL noted that while there is one current dedicated freighter serving its airport (a Qantas Boeing 767 to Sydney), the service is not sufficient. The freighter service does not match Christchurch's seasonal demand peaks and it reserves most of its space for imports to Auckland (sub. DR86, p. 11).

None of these factors are insurmountable barriers to an increase in dedicated freighter services to and from Christchurch. The freighter market is dynamic and new services appear on international routes when profitable opportunities arise.

The issue is the price at which such dedicated freighters would supply their services. Christchurch cannot benefit from the more regular and larger-scale demand for freight on a particular route that is a feature of Auckland and other larger international cities. As a result, dedicated freighters may charge a higher price for moving smaller and less certain shipments. This may be one reason why the price of dedicated freighters is too high for most South Island shippers.

F5.2

There are no barriers to entry for dedicated air freighters to increase freight capacity in and out of Christchurch. If shippers are willing to pay for a dedicated freighter service, they should be able to signal this to airlines directly or through a 'consolidation agent'.

Regulatory constraints on the supply of bellyhold freight capacity on passenger services

The CIAL argued that the supply of bellyhold freight capacity on passenger services is constrained by New Zealand's Air Services Agreements (ASAs) with other countries. These ASAs often place restrictions on the number of airlines that can carry passengers in and out of New Zealand, and the number of passengers they can carry. This in turn can constrain the amount of bellyhold freight capacity. The CIAL argued that the result is inefficient and warrants consideration by the Commission:

When a market works around transport capacity constraints by reducing volume and incurring additional transaction costs, thereby resulting in an inefficient outcome for New Zealand as a whole, the status quo equilibrium doesn't have much going for it.

CIAL, sub. DR86, p. 14

Chapter 12 considers the regulation of international air services. It recommends that the Government should account for freight-specific costs and benefits when considering new ASAs or changes to ASAs.

6 Improving workplace productivity

This chapter discusses the importance of high-productivity workplaces and highlights concerns raised to the Commission that work practices at some New Zealand ports are 'leaving value on the table' that could be shared between port workers, owners and customers. The chapter then looks at how high-productivity workplaces could be promoted.

Key points

- Workplace productivity is the capability of a company to turn its inputs, including labour and capital, into products and services. The term 'high-productivity workplaces' is used in this chapter to refer to workplaces that are able to do this in an efficient and effective manner while promoting a fair and cooperative relationship between employers and workers.
- The benefits of high-productivity workplaces can include higher real wages, better working conditions, higher levels of job satisfaction, and more competitive and profitable businesses.
- There is no single recipe for increasing workplace productivity; however, key ingredients include innovation, the adoption of new technologies, and investment in worker skills and capital equipment. The ability of an organisation to turn these ingredients into high-productivity workplaces depends on the quality of governance, the level of managerial skills, and the willingness and ability of managers and workers to accept change and undertake ongoing training to enhance their skills and capabilities.
- Good workplace relationships between employers and employees are an essential catalyst for developing high-productivity workplaces. These relationships are typically built on mutual trust, and a shared understanding and vision for the organisation.
- New Zealand's employment legislation attempts to promote good relationships by prescribing the concept of 'good faith' bargaining, protecting the integrity of individual choice, and providing avenues for mediation where differences between parties arise.
- Work practices and management/worker relationships at some New Zealand ports are far from conducive to high-productivity workplaces. Inefficient work practices represent a forgone opportunity to create value and distribute it in a manner that benefits all parties.
- Poor relationships between management, workers and unions are a major obstacle to capturing additional value. These relationships are more akin to the 'old school' adversarial relationships of times past than the 'productive employment relationships' prescribed as an object of the Employment Relations Act 2000.
- A specific policy regime aimed at promoting better workplace relations at ports alone is not warranted. Improving the governance of both ports and unions would contribute to building more productive arrangements. These relationships will inevitably take time to build and to filter through to port performance.
- The concepts of 'contracting out' and 'casualisation' are often confused. While an external services provider (contract company) may indeed employ casual workers, it should not be automatically assumed that the proportion of casual or part-time workers will be higher than if the same services were provided 'in-house'.

6.1 The importance of high-productivity workplaces

The term 'high-productivity workplaces' is used in this chapter to refer to workplaces that are able to efficiently turn inputs, including labour and capital, into outputs (products and services). At an economy-wide level, workplace productivity is a key driver of income growth and improvements in the material standard of living.

New Zealand's recent economic growth has largely been driven by improvements in the level of labour utilisation (the number of paid hours worked per head of population), rather than improvements in the ability of firms to use labour more efficiently (for example, through improvements to capital, skills and workplace organisation) (New Zealand Government, 2011).⁵⁰

Raising labour productivity (GDP per hour worked) and creating high-productivity workplaces is therefore an ongoing challenge, not only for the international freight logistics chain, but for the whole New Zealand economy.

Moving to high-productivity workplaces can have a number of benefits for both firms and workers. These can include higher real wages across the country and more competitive and profitable businesses. These factors can in turn lead to improved job security, improved working environments, a better work-life balance, increased job satisfaction, and improved health and safety.

It is important to distinguish between the concepts of high-productivity workplaces (defined above) and 'high performance work practices' (HPWP).⁵¹

The term 'high performance work practices' is commonly used in human resources and industrial relations literature to refer to a variety of *specific* workplace practices. These practices are generally focused on "enabling and motivating workers to develop, share and apply knowledge more fully than traditional work practices" (Godard, 2004, p.349). Box 4.5 provides a list of common components of HPWP.

Box 6.1 Components of High Performance Work Practices

The Department of Labour summarises the components of HPWP as:

- Changed forms of work organisation involving employees carrying out a wider range of tasks, often in (autonomous or semi-autonomous) teams, and with a higher degree of autonomy in decision-making.
- Increased focus on training and skills development, particularly in relation to 'soft' skills related to communication and working in teams.
- Mechanisms for improved two-way communications, and in particular mechanisms that provide for employee 'voice' in the organisation.
- Improved processes for managing employees both individually and collectively – both in relation to human resource practices such as recruitment and selection, performance management and pay policies, and in relation to the way that employees are treated by line managers.

Source: Department of Labour (2007, p.14)

A number of empirical studies have found a positive correlation between the adoption of HPWP and firm performance (see, for example, Huselid, 1995; Arthur, 1994; and Berg, 1996). However, other studies have shown weak, or negative, impacts of HPWP on organisational performance and worker wellbeing. For

⁵⁰Increasing labour utilisation has occurred while the hours worked per person employed has fallen by around 4% in the five years to 2009 (OECD, 2010). This suggests that other factors that contribute to labour utilisation (such as the proportion of working aged people, high participation rates and low unemployment) have more than offset the decline in hours worked per employee (New Zealand Government, 2011).

⁵¹HPWP have also been referred to as 'High-Performance Workplaces', 'High Involvement Work Systems', 'Progressive Work Practices', 'High Commitment Work Systems' and 'High Performance Work Systems'.

example Godard (2004) draws on existing empirical studies of HPWP to assess their impact on employers, workers and unions. He concludes:⁵²

Overall ... we should treat broad-brush claims about the performance effects of HPPs [High-performance paradigms], and about research findings claiming to observe them, with a healthy degree of scepticism. There is little reason to doubt that HPPs are highly effective in some workplaces, and the adoption of at least some HPPs can likely contribute to performance in most workplaces. However ... it is also likely that proponents not only overestimate the positive effects of high levels of adoption of these practices, but also underestimate the costs – costs that are often not reflected in the performance measures used by researchers (p.355).

The adoption of HPWP is ultimately a management decision. For the purpose of this inquiry, the key issue is whether the institutional arrangements, incentives and workplace relationships are conducive to the adoption of productivity-improving practices or investments (including HPWP where appropriate).

As such, the focus of this chapter is on promoting high-productivity workplaces – noting that one strategy available to managers is the adoption of HPWP.

6.2 Drivers of high-productivity workplaces

There is no single recipe for increasing workplace productivity; however, there is a general agreement that the key ingredients include innovation, the adoption of new technologies, investment in plant and equipment, and investment in skills.

The ability of a workplace to use these ingredients effectively is in turn dependent on the characteristics of the organisation, such as the quality of governance and the capabilities and attitudes of managers and workers.

Good workplace relationships between employers and employees are also an important catalyst for the development of high-productivity workplaces. These relationships are typically built on mutual trust and a shared understanding and vision for the business. Such relationships facilitate cooperation and the adoption of business improvements that can benefit both workers and employers (and ultimately consumers).

These factors have been synthesised by various authors. For example, the Department of Labour, Business NZ and the Council of Trade Unions identify seven 'drivers of workplace productivity' (Murray, 2010, p.9):

- Building leadership and management capability – the skill of getting people together to achieve a common goal.
- Creating productive workplace cultures – everyone at the workplace is committed to quality and is always looking for improvement.
- Encouraging innovation and the use of technology – looking for new ideas and new ways of doing things.
- Investing in people and skills – adopting a lifelong learning approach.
- Organising work – developing high performance organisations.
- Networking and collaboration – sharing ideas and information openly.
- Measuring what matters – assessing results and identifying areas of improvement.

The development and maintenance of good workplace relationships is a core goal of New Zealand's employment legislation. For example, the Employment Relations Act 2000 (ERA) prescribes the concept of 'good faith' bargaining,⁵³ provides protection for individual choice and avenues for mediation where

⁵² For further examples see Cappelli and Neumark (2001); Freeman, Kleiner and Ostroff (2000); and Godard (2001).

⁵³ The concept of good faith bargaining is further elaborated on in the 'Code of Good Faith in Collective Bargaining'. The code is available at <http://www.dol.govt.nz/infozone/collectivebargaining>.

differences between parties arise. (See Box 6.2.)

F6.1

Workplace productivity is driven by a number of factors including innovation, the adoption of new technologies, investment in plant and equipment, and investment in worker skills. Healthy relationships between employer and employees, including a shared view of the future, are important facilitators of these drivers in all workplaces, including those within the international freight logistics chain.

Box 6.2 Object of the Employment Relations Act 2000 (s.3)

The object of this Act is –

(a) to build productive employment relationships through the promotion of good faith in all aspects of the employment environment and of the employment relationship —

- (i) by recognising that employment relationships must be built not only on the implied mutual obligations of trust and confidence, but also on a legislative requirement for good faith behaviour; and
- (ii) by acknowledging and addressing the inherent inequality of power in employment relationships; and
- (iii) by promoting collective bargaining; and
- (iv) by protecting the integrity of individual choice; and
- (v) by promoting mediation as the primary problem solving mechanism; and
- (vi) by reducing the need for judicial intervention; and

(b) to promote observance in New Zealand of the principles underlying International Labour Organisation Convention 87 on Freedom of Association, and Convention 98 on the Right to Organise and Bargain Collectively.

6.3 Some workplaces are not conducive to high productivity

The pursuit of workplace productivity is an important goal for all components of the international freight logistics chain. However, stakeholders have highlighted particular concerns that the work practices and management/worker relationships at some ports are far from conducive to high productivity.

The Commission has heard different perspectives on this issue.

On one hand, the Council of Trade Unions (CTU) has expressed concerns that practices necessary for the protection of worker safety are being incorrectly labelled as 'restrictive'. For example, in relation to limiting the number of casual workers at ports, the CTU notes:

There is concern regarding casuals without sufficient skills or experience taking on jobs that compromise their own and their fellow employees' safety. There are many situations in ports in which workers must work in close cooperation and depend on each other for their safety. This depends on trust in others skills, experience and judgement which cannot exist with casuals who are rarely worked with.

Similarly, in relation to the length of shifts the CTU notes:

“Restricting shift lengths” and other practices that seek to avoid exhausted workers putting themselves and others at risk are especially important in the case of casual workers, who will often have completed a full shift on a completely unrelated job in another industry before starting work at the port.

Council of Trade Unions, sub. DR101, p. 22

On the other hand, some ports and shippers believe certain practices are aimed solely at extracting higher payment or increasing paid downtime. The practices of concern include resistance to more flexible use of labour, extending paid breaks beyond what is set out in collective agreements, resistance to performance rewards and limiting the opportunity for managers to develop specialised teams (eg, specialised teams of crane drivers that only drive cranes). To varying degrees, these practices are likely to lower labour productivity.

The Federated Farmers note:

Federated Farmers believes that real productivity improvement will not be possible without significant changes in work practices, including contracting out within-port activities. One of the reasons most port companies have declined to move in that direction is fear of industrial disputes.

Federated Farmers, sub. 27, p. 7

Some stakeholders have also voiced concerns that unions have at times used their influence to limit competition in the provision of port services. As noted by ISO Limited:

Union action has also been directed at exporters themselves. When ISO competitively bid and won the Zespri Kiwifruit stevedoring and marshalling contract from the incumbent NZL Group (who employed CTU-affiliated union members) in 2010, the Maritime Union of New Zealand (MUNZ) and the Rail and Maritime Transport Union (RMTU) agreed to develop a campaign to hinder seasonal kiwifruit contracts by all lawful means, rather than targeting the port. Both RMTU and the MUNZ stated that New Zealand port employers will be targeted nationally and internationally to ensure that marshalling and stevedoring work in New Zealand is done by workers who belong to a bona fide ITF-affiliated union.

ISO Limited, sub. 28, p. 16

While some practices exist (or have evolved) in the interests of safety, other practices appear to have their genesis in a previous era of port history – particularly those practices that rotate work and prevent job specialisation. These practices seem to stem from past management approaches that were pragmatic and relevant to the working of ports before the advent of containerisation and bulk material handling. For instance, what today is seen as job assignment ‘inflexibility’ may have originated as a way of preventing workers from abandoning a demanding cargo when a ship containing a less challenging cargo arrived in the port (Harding, 1990).

Clearly seaports have come a long way since such practices were necessary. The introduction of contemporary cargo handling equipment and machinery has radically changed the scale, sophistication and labour requirements of New Zealand’s ports. Modern port operations now demand modern management practices and modern employer/worker relationships.

Evidence suggests value is being ‘left on the table’

Despite the conflicting and often anecdotal nature of the information submitted to the inquiry, evidence before the Commission strongly suggests that value is being ‘left on the table’ as a result of the persistence of some work practices.

It is difficult to quantify the extent of these losses. Nevertheless the loss of value is a concern as it means either that port services are more expensive than they need to be, port workers are forgoing real wage increases, or port owners are receiving lower returns.

At its heart this is neither a ‘pro-company’ nor a ‘pro-worker’ view. Rather, it is a view based on the belief that the interests of New Zealand Inc are best served by capturing lost value and sharing the gains between parties. The range of ways in which gains could be shared is discussed in Chapter 2, Box 2.1.

F6.2

The persistence of some work practices represents a forgone opportunity to capture lost value and distribute it in a manner that can potentially benefit all parties.

6.4 Why is value not being captured?

A major factor preventing the capture and sharing of additional value is the poor relationships between management, and workers and unions at some ports. These relationships resemble the 'old school' adversarial model of industrial relations, rather than the 'productive employment relationships' envisioned as the object of the Employment Relations Act.

As noted by the Port of Napier, poor relationships are perpetuated by practices of port managers and unions.

The waterfront as a whole within NZ is still highly unionised which in itself is not a negative, but the use of that influence and power can be highly unproductive. Confrontational management practices have also contributed to less than positive outcomes.

Port of Napier, sub. 10, p. 8

In such workplace environments, entrenched positions and cultures tend to view negotiations in terms of a 'winner' and a 'loser', rather than an opportunity to develop mutually beneficial outcomes. This is particularly prevalent where management and unions do not share a common view on what constitutes a successful port operation. This can result in resistance to changes that are perceived as being inconsistent with either party's preferred view of the future.

Where work practices have been agreed within a collective agreement, they are legitimate contractual 'rights' for the duration of the agreement. Once written into a collective agreement (or established as 'custom and practice' as part of the agreement's practical operation), it can be difficult for employers to negotiate their removal in subsequent collectives, even when circumstances change and the original rationale no longer exists. This is true even if opportunities to share the benefits from doing so are apparent. (The issue of 'custom and practice' is discussed further in section 6.5.)

A further complication is that port management is often reluctant to push for changes in collective agreements because they wish to avoid the potential cost of industrial and legal action. This tends to entrench the status quo arrangements. As the Port of Napier notes:

The current Auckland dispute is a clear example of why there is management reluctance to push for less restrictive work practices. While the outcome of the Auckland dispute is unclear at time of writing, the direct costs, loss of business and significant long term reputational damage are an extremely high price to pay for Port management to legally exercise its right of prerogative as an employer.

Port of Napier, sub. DR93, p. 4

6.5 Moving towards high-productivity workplaces

The development of a work environment that is conducive to high productivity must ultimately be achieved by employers and their employees working constructively together.

In considering alternatives for encouraging high-productivity workplaces through better workplace relationships, the Commission considers the following questions are central:

- Does the workplace situation at ports suggest a new 'port-specific' employment (or competition) regime is required?
- Could improvements to the governance of both ports and unions promote more productive workplace relationships?
- Is there scope to improve the decisions made by employers and workers by improving the collective understanding of the issues?

The Commission's views on these issues are set out below.

Improving policy settings

It is impossible for any government to regulate for good relationships. Effective workplace relationships are a product of shared aspirations and shared values. The development of such shared ideals does not happen automatically in any organisation. Rather, human relationships are developed over time within the complex and dynamic environment of the workplace.

The promotion of these relationships is a key objective of the ERA. This is highlighted in the Explanatory Note to the Employment Relations Bill:

[The] framework is based on the understanding that employment is a human relationship involving issues of mutual trust, confidence and fair dealing, and is not simply a contractual, economic exchange. This basis requires specific recognition in any regulation of the relationship – something not satisfactorily achieved by general contract law. The overarching objective of the Employment Relations [Act] is therefore to build productive employment relationships through the promotion of mutual trust and confidence in all aspects of the employment environment (para [Intro.9]).

Cited in Mazengarb's Employment Law (2011)

It is beyond the scope of this inquiry to evaluate the success of New Zealand's labour laws in promoting healthy workplace relationships and achieving good labour market outcomes. However, there is evidence to suggest that, at an economy-wide level, labour markets in New Zealand are functioning reasonably well. For example New Zealand has:

- a low incidence of industrial action compared to other OECD countries⁵⁴ (notwithstanding recent events);
- a high level of labour utilisation and generally low unemployment rates; and
- favourable rankings on international indexes that assess labour market laws and conditions – for example, indexes produced by the OECD, World Bank and the World Economic Forum (Department of Labour, 2011).

Notwithstanding the above, it is important that the ERA is periodically reviewed to ensure it continues to achieve its objectives as social and economic conditions change.

Does the workplace situation at ports require a port-specific regime?

Ports are service providers with specific characteristics. They exist to provide for the movement of cargoes on and off ships, and to complete those movements as quickly and efficiently as possible. The work of a modern port requires a high degree of flexibility in the timing of services. Ports typically organise labour requirements around arrival and departure time 'windows'. If a ship arrives within its window, the ports are able to plan for adequate labour to be available for unloading or loading. However, the demand for port services can be unpredictable because of:

- fluctuations in the number and type of ships arriving at any one time – for example, as a result of changes to shipping line schedules;
- variations in the number of containers to be loaded and unloaded – for example, as a result of year-to-year variations in seasonal exports, or shippers taking advantage of available space on ships at short notice; and
- unexpected factors, such as delayed arrivals due to weather conditions, mechanical faults or delays incurred at other ports (Australian Productivity Commission, 1998).

The consequence of such variation in work flow is that ports must always have capacity to handle unexpected peaks or troughs.

⁵⁴ See for example, *Society at a glance – OECD social indicators* (OECD, 2006).

Further, while ports account for a relatively small part of the overall value chain,⁵⁵ they are strategically significant as a potential bottleneck in the supply chain. Industrial disputes at ports can add costs elsewhere, particularly if ships and cargoes are delayed or diverted from their preferred routes or schedules. Further, the nature of port assets makes them susceptible to 'hold-up' problems.⁵⁶

The Commission has considered whether these characteristics warrant the development of a port-specific policy solution and has concluded that they do not. The reasons for this conclusion are:

- Other industries share some, or all, of the characteristics of ports yet manage to have cooperative and effective workplaces. This suggests that relationships, rather than different policies, are at the heart of any industrial relations problems at ports.⁵⁷
- Poor workplace relationships are not systemic throughout New Zealand ports (refer Box 6.3).
- Strike action or lockouts occur relatively infrequently at New Zealand ports (notwithstanding recent events at the Ports of Auckland).
- There is no evidence to suggest that the processes for mediation and negotiation within the ERA are made less effective by the characteristics of ports (refer Box 6.5).
- The existing competition framework, in conjunction with the ERA, provides means for parties that feel aggrieved by any anti-competitive behaviour associated with the provision of port labour to seek solutions.

Box 6.3 Comments on labour relationships from port companies

Lyttelton Port Company Limited

Waterfront labour tends to have a monopoly (Union organized) in most developed countries. However, it is worth noting that LPC (in common with some other NZ ports) has been able to work positively with staff and Unions to achieve on-going productivity improvements in key areas such as container terminals. (sub. 20, p. 2)

PrimePort Timaru

PrimePort is an example where very flexible work practices have been adopted. We suggest this has been achieved by trust and commitment of employees to the business. (sub. DR68, p. 4)

Notwithstanding the above, some stakeholders have suggested reforms to the ERA that they believe would reduce the likelihood of protracted negotiations. These include:

- Removing, or limiting, the requirement on parties to conclude collective bargaining. This would create the real possibility that failure to reach an agreement may result in no agreement at all – reducing the incentive on both parties to hold out for a 'one-sided' outcome.
- Reducing the period a collective agreement continues in force after its expiry date (currently up to 12 months).
- The introduction of compulsory secret ballots prior to strike action.⁵⁸

⁵⁵ In terms of the share of the total cost of moving cargoes into and out of the country.

⁵⁶ As noted in Chapters 2 and 9, hold-up problems occur when parties have assets that cannot be deployed to an alternative use. Potential users of these assets can negotiate favourable rates.

⁵⁷ For example, characteristics such as variable workloads, potentially dangerous workplaces and the need for flexibility in the timing of work provision exist in many industries. These characteristics are common at workplaces throughout the freight transport system.

⁵⁸ The introduction of secret ballots is the subject of a private members bill (the Employment Relations (Secret Ballot for Strikes) Amendment Bill, 2010).

Importantly, these reforms would apply to the whole economy, and would have much wider implications than simply for the international freight sector. These measures need to be thoroughly assessed before drawing conclusions on whether they would be welfare-enhancing. Such an analysis is beyond the scope of this inquiry; however, the Commission notes that any reform which disproportionately favours the bargaining strength of one party at the expense of the other would be counter-productive.

F6.3

A specific policy regime aimed at promoting better workplace relations at ports alone is not required.

Could improvements to governance promote more productive workplace relationships?

Broadly speaking, governance refers to the “arrangements for decision-making and the process by which decisions are implemented (or not implemented)” (Australian Productivity Commission, 2010b, p. xvi). Good governance structures are those that have the right incentives to collect and share relevant information, encourage better decision-making, and recruit and retain capable people in governance roles.⁵⁹

Port companies

Ultimately, it is boards and their management teams that are accountable for the performance of ports. It is they who have not just the right to lead and manage, but the obligation to do so on behalf of stakeholders and shareholders. Embodied in that leadership obligation is the need to work out how to engage with workers and their chosen representatives in a way that leads to productive, socially responsible and sustainable port operations.

Governance arrangements for port companies (dealt with in Chapter 10) may impair the ability of ports to reach efficient and constructive working relationships (and thereby the pursuit of high-productivity workplaces). In particular, weak governance arrangements may lead to confused or ‘soft’ strategic direction, inadequate clarity of purpose, and unconvincing articulation of longer-term direction for the enterprise.

Importantly, good governance of port companies should not be interpreted simply as ‘a tougher stance against workers’ – in fact quite the opposite may be true. A key component of good governance is skilful, honest and resolute leadership that recognises the importance of a well trained labour force to the overall success of the business, and can develop outcomes that instil a sense of fairness for all parties.

Unions

The quality of governance and leadership of unions defines the contribution that a union is able to make to the wellbeing of its members – both now and in the future.

Well governed unions with high-quality leaders can play an important role in overcoming the barriers to achieving high-productivity workplaces, while also advancing the wages and conditions of their members. For example, by providing a ‘voice’ for workers, unions can help to avoid costly disputes, reduce staff turnover, reduce absenteeism and promote employee involvement in identifying more efficient ways of working (see, for example, Freeman and Medoff, 1984; Addison, 2005; Ramirez, Guy and Beale, 2007). Unions can also help create trust in management and commitment to organisational change where such changes benefit the long-term interests of both workers and employers (Gill, 2009).⁶⁰

Implementing this ‘hybrid model’ of unionism is a major challenge for union leaders and port managers. As noted by Gill (2009), leveraging the positive aspects of unions requires replacing the “...perspective that has dominated traditional industrial relations, with a partnership approach that places less emphasis on conflict of interests between employers and employees and more emphasis on mutual gain” (p.46).

⁵⁹ In considering the role of governance in the promotion of better workplace relationships, the Commission is not commenting on the performance, intentions or capability of any individual involved in the past or current governance of ports or unions. Rather, the aim is to highlight the important role that governance plays in constructive workplace relationships.

⁶⁰ This is in contrast to the ‘traditional’ view of unions whereby they utilise their monopoly position to drive up wages and to introduce restrictive work practices that inhibit management’s ability to raise productivity.

Developing a 'partnership approach' can be met with resistance from more 'traditional' union members who may see this as a weakening of the union's ability to represent its members (Heery, 2002). Overcoming such long-held beliefs about the 'true' role of unions is a key challenge for union leaders and one that highlights the importance of good governance.

Box 6.4 New Zealand Law Commission Issues Paper on the Incorporated Societies Act 1908

In order to become a registered union, all unions must be incorporated societies under the Incorporated Societies Act 1908.

In its June 2011 Issues Paper, the Law Commission indicated that the Incorporated Societies Act does not support modern governance structures or practices, in stark contrast to other governance-related statutes (such as the Companies Act).

The Law Commission summarised its view that "the 1908 Act can be criticised for requiring only the bare bones of a corporate structure" (Law Commission, 2011, p.8). The Law Commission is considering, among other things, recommending that incorporated societies be required to have a written constitution, a means of disciplining members, a regulator, a code of governance duties, misuse of office provisions, and an appropriate dispute resolution mechanism.

While the Commission has not investigated the adequacy of current governance practices of unions as part of this inquiry, the general direction of reform being considered by the Law Commission represents an opportunity to base these practices on a modern, transparent and accountable governance framework.

F6.4

Improving the governance of both ports and unions, and promoting skilful, persistent, honest and resolute leadership, are important elements in developing relationships conducive to high-productivity workplaces. Such relationships will inevitably take time to build and to filter through to port performance.

Improving understanding of key issues

A common and correct understanding of employment law concepts and processes is an important element in the development of workplace relationships.

While the Department of Labour's website provides extensive information on the processes and legal frameworks underpinning New Zealand employment law, some misconceptions remain.

The Commission has identified a number of issues where improving the level of understanding may assist all parties to achieve better workplace outcomes. While not substantive policy issues, the Commission hopes that clarification in these areas will promote better decision making and more informed public discussions.

Three areas where improved understanding is desirable are:

- the role of the courts in upholding particular work practices;
- restrictions on communications between employers and workers during the collective bargaining process; and
- the difference between 'casualisation' and 'contracting out'.

The role of court in upholding 'out-of-date' custom and practice

Some stakeholders have suggested that value-reducing work practices are perpetuated by common law support for 'custom and practice'. The argument runs that ports are unable to remove inefficient practices as the Employment Court (the Court) considers them to be common law rights.

This argument significantly underplays the importance of employment contracts (and the collective bargaining process) in setting the terms and conditions of employment.

Employment contracts are the commercial foundation of an employee/employer relationship. They are agreements which set out the conditions under which employees will provide labour to an employer. New Zealand law recognises certain special features of employment contracts, and in this context custom and practice can play two roles:

- in certain circumstances, a well established practice may be interpreted as a contractual term; and
- where a written contractual term is ambiguous, or open to interpretation, custom and practice may be taken into account in determining the parties' mutual intention.

For many years the Court has recognised that terms in the employment contract can be drawn from a number of different sources. As noted by the Court:

...it is well nigh impossible for even the most detailed collective agreement to contain all of the terms of employment. Those from other sources are likely to include terms implied by statute and those derived from custom and practice.

New Zealand Meat Workers and Related Trades Union v AFFCO (2009)

In order to give rise to a contractual term, a 'custom and practice' must be well established and reasonably long-standing. Where it is suggested that an existing practice may have given rise to a contractual term, the Court's task is to assess whether the parties' behavior indicates a *mutual intention* to agree a term of the contract. In this way, of course, each case will turn on its own circumstances.

Importantly, a term implied by custom and practice cannot override an expressed provision of an employment contract. This principle is well established. As noted in the Court's decision in *Gallagher v Watercare Services Ltd* (1994), "I do not think that 'custom and practice' can override the express provisions of the contract or even perhaps indeed supplement them."

Where the meaning of a written term of an employment contract is left open, or where it is ambiguous, the Court can look to the parties' custom and practice for guidance on its interpretation. For example, in *Taylor v Canterbury District Health Board* (2010) the Court recognised that the way in which the parties had behaved over a reasonable period of time could confirm their mutual intention around the meaning of a contractual term.

A further example is provided by the Employment Court Chief Judge in his submission to the inquiry:

In *Ports of Auckland Ltd v New Zealand Waterfront Workers Union* a question arose about the contractual rate of pay of employees on a day off taken in lieu where a statutory holiday had been worked. The applicable collective contracts provided for several different rates of pay in different circumstances but did not set expressly the rate for days in lieu. The Court held that, in respect of one of the collective contracts, the negotiated and mutually deliberate inclusion of wording dictated the rate payable for days off in lieu of public holidays worked. In the absence of express provision in the other collective contracts, evidence of past and current practice applied. In all cases it appears that the Court found for the lower ordinary rates of pay contended for by the port company.

Employment Court Chief Judge, sub. DR105, pp. 8-9

Importantly, both the employer and employee can seek to specify or override a custom and practice during the negotiation of an employment contract; ie, by including explicit contractual terms that override existing custom and practice. There is no rule of law which prevents the parties from doing this – and it is a mistake to suggest that long-standing custom and practice cannot be overridden by a written contract.

This is not to say the established custom and practice cannot be difficult to negotiate out of a collective agreement, only that there is no legal barrier to doing so. The ability of employers and employees to reach a mutual agreement will, as discussed above, be influenced by workplace relationships that exist between the parties.

Box 6.5 Mechanisms for resolving conflicts under the Employment Relations Act 2000

Where an agreement cannot be reached, the ERA provides two mechanisms for resolving conflicts. As explained by the Employment Court Chief Judge:

The first is known colloquially as facilitated bargaining under ss 50A-50I of the Act. Very broadly this is collective bargaining facilitated by, and conducted under, the auspices of the Employment Relations Authority in which a recommendation for settlement (including announced publicly) can be made. If "facilitated bargaining" is unavailing, s 50J allows for what may be called "determinative resolution" or "fixing" in which if there are any serious and sustained breaches of duties of good faith in relation to collective bargaining, a member of the Employment Relations Authority may determine the relevant terms and conditions of a collective agreement which will be imposed in the parties. Although facilitated bargaining takes place from time to time in situations of a collective bargaining impasse (including, I understand, in port employment situations), I am not aware of any s 50J fixing having taken place although this may be because of a combination of the relatively strict statutory preconditions and a reluctance of even the most immovable parties to collective bargaining to relinquish their power to determine the outcome.

Employment Court Chief Judge, sub. DR105, p. 4

F6.5

A well established 'custom and practice' can give rise to a contractual term, or be used by courts to interpret the meaning of an ambiguous term in an employment contract. However, the express terms of an employment contract will always prevail. Both employer and employee can seek to specify or override a custom and practice during the negotiation of an employment contract. The ability to change existing practices will therefore be influenced by the workplace relationships that exist between the parties and the value each party assigns to the custom and practice.

Restrictions on employer/worker communications during collective negotiations

A common area of confusion relates to the inability of employers to communicate with employees during the collective bargaining process. This confusion can be a source of unnecessary frustration for employers.

Under s.32(1)(d)(ii) of the ERA, unions and employers "must not (whether directly or indirectly) bargain about matters relating to terms and conditions of employment with persons whom the representative or advocate are acting for, unless the union and employer agree otherwise."

An amendment on 1 April 2011 sought to clarify the interpretation of s.32(d)(ii) by including the following paragraph as s.32(6):

To avoid doubt, this section does not prevent an employer from communicating with the employer's employees during collective bargaining (including, without limitation, the employer's proposals for the collective agreement) as long as the communication is consistent with subsection (1)(d) of this section and the duty of good faith in section 4.

Therefore, while communications that relate directly or indirectly to bargaining must go through an employees' union, an employer is not prevented from communicating with employees during the collective bargaining process as long as the communication is consistent with good faith. This means the communications must not:

- directly or indirectly mislead or deceive, or be likely to mislead or deceive, the party that receives them (s.4(1)(b));
- constitute direct or indirect bargaining (without the consent of the union) (s.32(1)(d));
- undermine the bargaining itself (s.32(1)(d)(iii)) – for example by encouraging individual employees to resign from the union and to agree to individual agreements; and

- undermine the authority of any representative involved in bargaining (s.32(1)(d)(iii)) – for example, by telling union members that their representative in bargaining is acting unreasonably, and that they should encourage him/her to accept the employer’s position.

F6.6

While communications that relate to collective bargaining must go through an employees’ union, an employer can communicate with employees during the collective bargaining process as long as the communication is consistent with good faith.

‘Contracting out’ and ‘casualisation of the workforce’

A clear distinction should be made between the concept of ‘contracting out’ of services and that of ‘casualisation’ of the workforce.

‘Contracting out’ refers to a situation where one company enters into a contract with another to supply services. The concept is often associated with the ‘outsourcing’ of services whereby a company transfers the provision of a service previously performed by in-house employees to an external supplier.⁶¹

The employees of a contracted company may include a mix of full-time, part-time and casual employees. The proportion of each type of employee will depend on the individual business model of the contracted company and its strategy for delivering the contracted services. For example, ISO Limited (a contract supplier of port services) has a workforce which consists of over 60% full-time employees. This is higher, or very similar to, the proportion of full-time employees directly employed by many of New Zealand’s ports.

‘Casualisation of the workforce’ on the other hand, is the process of replacing permanent positions with casual or short-term contract employees. This is often associated with lower wellbeing for workers; however, this is not necessarily the case.

While converting full-time positions to part-time positions would undoubtedly reduce the wellbeing of workers that want full-time permanent positions, part-time jobs will enhance the wellbeing of workers who make a conscious decision not to work full-time. As Statistics New Zealand explains:

Contrary to feeling exploited, less satisfied with life, or desiring to work longer hours, many part-time workers prefer to work part time. This is because the lower number of hours or days they are required to be at work suits their other commitments, presumably enhancing their work-life balance. Carroll notes that only six percent of people who are employed part-time would rather be working full-time, although 30 percent of people working part-time would prefer to be working an increased (unspecified) number of hours.

Statistics New Zealand, 2006

Although an external services provider may indeed employ casual workers, it should not be automatically assumed that the proportion of casual workers will be higher than if the same services were provided ‘in-house’. This is important, as empirical studies examining the impact of ‘contracting out’ and ‘casualisation’ on productivity are usually careful to make this distinction in order to examine their separate effects. Loosely referring to contracting out as casualisation (or vice versa) therefore runs the risk of attributing empirical findings to the wrong concept.

F6.7

The concepts of ‘contracting out’ and ‘casualisation’ are often confused. While an external services provider (contract company) may indeed employ casual workers, it should not be automatically assumed that the proportion of casual or part-time workers will be higher than if the same services were provided ‘in-house’.

⁶¹ The contract will typically specify the agreed standards of service delivery, cost and general conditions of supply. Contracting out is commonly introduced with the goal of increasing efficiency, to enable the company to develop greater flexibility, or in order to allow greater focus on core business functions.

7 Customs, security and biosecurity

This chapter examines the role of border agencies in the context of New Zealand's international freight system. It begins with a discussion of how border services impose both benefits and costs on international trade, and then looks at the approaches used by border agencies to prioritise resources and deliver services. The chapter examines the rising cost of security measures and compares New Zealand border agency costs with those in Australia.

Key points

- New Zealand's border agencies are tasked with weighing up the benefits and costs of reducing border risks. This can be a complex task as public perceptions, incomplete scientific knowledge, and variations in 'expert' opinion can present conflicting views of how the border should be managed. Conflicting views can also arise when 'hindsight' is used to gauge the level of resources that 'should' have been devoted to preventing a border incursion.
- The general level of risk tolerance reflected in the activities of New Zealand's border agencies appears in line with the expectations of most stakeholders.
- The risk-based approach adopted by New Zealand's border agencies is a sound method for allocating agency resources and recognises that eliminating border risks would be neither feasible nor efficient.
- Border agencies should continue to enhance their performance measures and review procedures in order to improve the transparency of performance and increase management accountability.
- The Trade Single Window, which is scheduled to commence operation towards the end of 2012, will reduce duplication of paperwork by allowing exporters and importers to submit compliance-related information once, rather than to multiple agencies.
- The second phase of the new Joint Border Management System (JBMS) will improve 'back office' coordination between Ministry of Agriculture and Forestry and New Zealand Customs Service activities. The second phase is several years away from being delivered (assuming funding is secured). In the meantime, measures to improve border agency coordination are needed – this will be the focus of the Future Directions for the Border Sector initiative.
- The work programme for the Future Directions for the Border Sector initiative should include the development of transparent and quantifiable performance measures for border cooperation. These measures should form the basis of the planned six-monthly reports to Cabinet. Active oversight of the Border Sector Governance Group by border sector Ministers should continue beyond the completion of the Future Directions programme of work.
- Increased security concerns after 9/11 are placing additional costs on some New Zealand exporters – particularly those with time-sensitive cargos. For sea cargo, Mutual Recognition Agreements are being used to ensure that New Zealand's border standards are recognised by trading partners, and are reducing time delays associated with securing arrangements at overseas ports.
- Additional emphasis should be placed on developing 'trusted trader' programmes for New Zealand air cargo exports to reduce delays arising from overseas security requirements.
- Fees and charges imposed by New Zealand border agencies compare favourably, in general, with those imposed on exporters and importers in Australia.

7.1 Striking a balance between the benefits and costs of border protection

Agencies with responsibility for managing New Zealand's border are tasked with weighing up the costs of reducing border risks with the benefits of preventing border incursions. The costs include direct costs, such as border fees and charges, as well as the government's contribution to the operation of the various agencies.⁶² The costs also include indirect costs associated with regulatory compliance.

The benefits of preventing border incursions include avoiding damage to New Zealand's export industries; for example, by reducing access to markets, increasing the costs of production or eroding the brand reputation of 'NZ Inc' (Victorian Department of Primary Industries, 2008). They also include less tangible, but nevertheless important, benefits such as avoiding damage to environmental assets and the additional government expense that may result from a border breach (for example, additional pest and disease eradication programmes or additional demand for government health, policing and administrative services).

Further benefits from border agencies accrue through working with trading partners to facilitate movement of New Zealand exports into foreign markets. This is largely achieved through negotiating recognition by trading partners of New Zealand's standards of biosecurity, security, food safety and customs services. Recognition allows exports from New Zealand to be treated as 'low risk', thus reducing the chances of cargo being delayed by overseas border procedures.

Weighing up the benefits and costs of border services is complicated.⁶³ Public perceptions, incomplete scientific knowledge, and variations in 'expert' opinion can present conflicting views of how the border should be managed.⁶⁴ As Peterson and Fensling note:

Public concerns, sometimes amplified by the media, can create pressure for new regulations (or a diversion of regulatory effort) among the community and politicians, reflecting disproportionate perceptions of risk, beyond what an objective assessment would show... Regulators and policy makers may find it difficult to deflect demands for new regulatory solutions to perceived risks.

Peterson and Fensling (2011, p.6)

Despite these complexities, submissions to the inquiry largely supported the balance of cost and risk mitigation reflected in the activities of New Zealand's border agencies. For example, Ravensdown Fertiliser Co-operative states in its submission:

As a farmer co-operative, reliant on farmer income, Ravensdown is acutely aware of the biosecurity needs of NZ. We think NZ has the system about right for its risk assessments and controls.

Ravensdown Fertiliser Co-operative, sub. 3, p. 5

Similarly, the Federated Farmers submission states:

...New Zealand relies more than any other country on stringent biosecurity to safeguard export industries and the economy. We would strongly oppose any moves to weaken biosecurity standards and controls.

Federated Farmers, sub. 27, p. 3

While risk tolerance varies between stakeholders, the general level of risk tolerance reflected in the activities of New Zealand's border agencies appears in line with the expectations of stakeholders.⁶⁵ It is important that risks are continually monitored and resource allocation periodically adjusted in line with improvements in the understanding of various risk types. The issue of resource allocation is addressed further in section 7.2.

⁶² Cost-recovery issues are discussed later in the chapter.

⁶³ Examples of detailed risk and cost-benefit analysis conducted by MAF can be found on the publications section of the Biosecurity New Zealand website.

⁶⁴ For example, *Didymosphenia geminata*, commonly known as didymo, was not known to be a potential invasive species prior to its discovery in New Zealand.

⁶⁵ The level of risk tolerance will vary according to their exposure to loss from a border breach. Federated Farmers have indicated that some primary sector producers (for example bee products, grains and pork) feel that a less tolerant approach should be adopted (sub. DR 73).

It is worth noting that completely eliminating border risk is neither feasible nor efficient. This is because:

- Some risks, such as those posed by migratory species of birds or fish, are extremely costly, if not physically impossible, to avoid.
- Eliminating risk would involve allocating significant resources to removing risks that are very small and/or have low potential impacts.
- If New Zealand adopted a 'zero risk' attitude to imports, other countries might adopt a similar approach to New Zealand exports.⁶⁶

Table 7.1 New Zealand agencies with a role in border management

Agency	Key areas of responsibility
New Zealand Customs Service (NZCS)	<p>A key responsibility of the NZCS is to prevent illegal goods from entering New Zealand. This includes everything from illegal weapons, objectionable material and drugs, to dangerous persons, hazardous substances and copyright counterfeits. Customs is also responsible for collecting duties, excise taxes, and the goods and services tax due on imports and exports. This includes the Biosecurity Levy which NZCS collects on behalf of the Ministry of Agriculture and Forestry (MAF).</p> <p>NZCS has the power to check containers, vessels, baggage, mail, persons or property. They also conduct investigations and audits of personal and commercial documents, and the movement of currency and goods.</p> <p>Beyond the border, NZCS is involved in developing mutual recognition programmes with overseas trading partners and international initiatives led by the World Customs Organisation.</p>
MAF – Biosecurity	<p>MAF has responsibility for managing New Zealand's biosecurity system. This includes activities such as working with trading partners to develop standards and regulations, conducting border inspections to prevent biosecurity-risk pests and diseases getting into New Zealand, and eradicating or managing any pests and diseases that do get through.</p>
MAF – Food Safety	<p>The MAF is also responsible for monitoring and enforcing food standards within New Zealand. This includes: ensuring that food safety programmes are adhered to at premises where meat, seafood and other animal products are processed; ensuring that imported food meets national standards; and providing official assurance that exported food products meet the standards required by importing countries.</p>
Aviation Security Service	<p>The Aviation Security Service's focus is on ensuring the security of aircraft departing internationally to conform to international obligations, and of domestic jet aircraft of 90 plus seat capacity.</p>
Maritime New Zealand	<p>Maritime New Zealand has a range of responsibilities relevant to international freight. These include implementing and monitoring the International Ship and Port Facility Security Code, and conducting risk profiles of visiting ships in support of the core border agencies.</p>

Source: Agency websites; Ministry of Transport sub. DR58.

F7.1

The complete elimination of border risk is neither feasible nor efficient. Rather, a balance between costs and benefits needs to be struck.

⁶⁶ This is not to say that New Zealand should allow, or be required to allow, harmful goods into the country, only that it must apply the same doctrines to imports that it would expect its exporters to face in other countries.

F7.2

On the basis of submissions to the inquiry, it appears the general level of risk tolerance reflected in the activities of New Zealand's border agencies is in line with the expectations of stakeholders. The level of border risk management is not acting as a barrier to the efficiency of the international freight logistics chain.

7.2 Prioritising resources and efficient service delivery are vital

Efficiency is best served by selecting the combination of border activities that minimises the cost of achieving society's preferred level of border risk. This means border agencies need to:

- prioritise their resources into areas that deliver the highest net benefit to society; and
- select methods that deliver the desired outcomes in the most efficient and effective manner.

By operating efficiently, border agencies minimise government expenditure and the amount of costs that are recovered from the users of their services.

Prioritising resources to high-value areas

New Zealand's border agencies have embraced a risk-based resource allocation model. Broadly, this approach involves the following steps (Foley and Northway, 2010):

1. Establishing the desired level of risk tolerance.
2. Identifying risks and the chance of the risk incident occurring (rare, unlikely, possible, likely, or almost certain).
3. Assessing the consequence of the incident should it occur (insignificant, minor, moderate, major, or extreme).
4. Assigning priorities to the various risks.
5. Allocating resources to high-priority areas.

In theory, a risk-based approach allows New Zealand's border agencies to target their resources where they generate the highest value. Through targeting expenditure and effort, the risk-based model can reduce the regulatory burden on low-risk companies with a good compliance record, and increase the burden on those high-risk companies that consistently fail to comply.

Within MAF and NZCS, this approach is guided by a set of operating principles, outlined in Box 7.1.

Box 7.1 New Zealand Customs Service and Ministry of Agriculture and Forestry operating principles

Border management is guided by a set of operating principles recently agreed between NZCS and MAF. The principles provide a framework for border agencies, guiding their approach to the changing shape of the border environment, to increasing trade volumes and to changes in international transportation. The principles are:

- high assurance, light touch.
- risk is managed as early as practicable in the supply chain.
- partnerships to manage risk benefit everyone.
- rules are accessible and easy to understand. (sub. 34, p. 3)

The Commission supports the use of a risk-based approach as an efficient means of allocating scarce resources. However, there are several challenges facing the effective implementation of this system across all border agency activities. These challenges include:

- the need for flexibility so that resources can be reallocated between potential threats in response to changing circumstances or new information;
- the added requirement for timely and accurate intelligence on emerging threats;
- the need to ensure that threat assessments are consistent and transparent. This is particularly important when considering the economic consequences of potential threats as these evaluations can be highly sensitive to underlying assumptions;
- the need for additional cooperation and coordination between New Zealand's border agencies and similar agencies overseas via the application of the latest technologies;
- the need to manage the political risk and social expectations associated with moving from a 'check everything' philosophy to a 'check the things that matter' approach – particularly in highly visible areas such as air-passenger screening; and
- the need to ensure strong lines of management accountability, underpinned by regular monitoring of outcome-based performance measures.

The Commission notes the recent advances made by MAF in developing more robust performance measures and recommends that all agencies with border responsibilities conduct similar reviews.

F7.3

A risk-based approach is a sound framework for allocating the resources of New Zealand's border agencies.

R7.1

The use of a risk-based approach increases the need for regular monitoring of outcome-based performance measures. Border agencies should continue to enhance their performance measures and review procedures in order to improve the transparency of agency performance.

Efficient and effective methods of delivering services

Technologies and management practices have a significant impact on efficiency. A number of areas where border agency practices could be improved have been highlighted in submissions (Box 7.2). These include:

- reducing the duplication of paperwork required by border agencies;
- improving coordination between MAF and NZCS to avoid costs such as the double-handling of containers to accommodate audits;
- simplifying customs procedures in order to reduce the need for importers to engage customs agents; and
- reducing the number of government agencies that exporters and importers need to deal with.

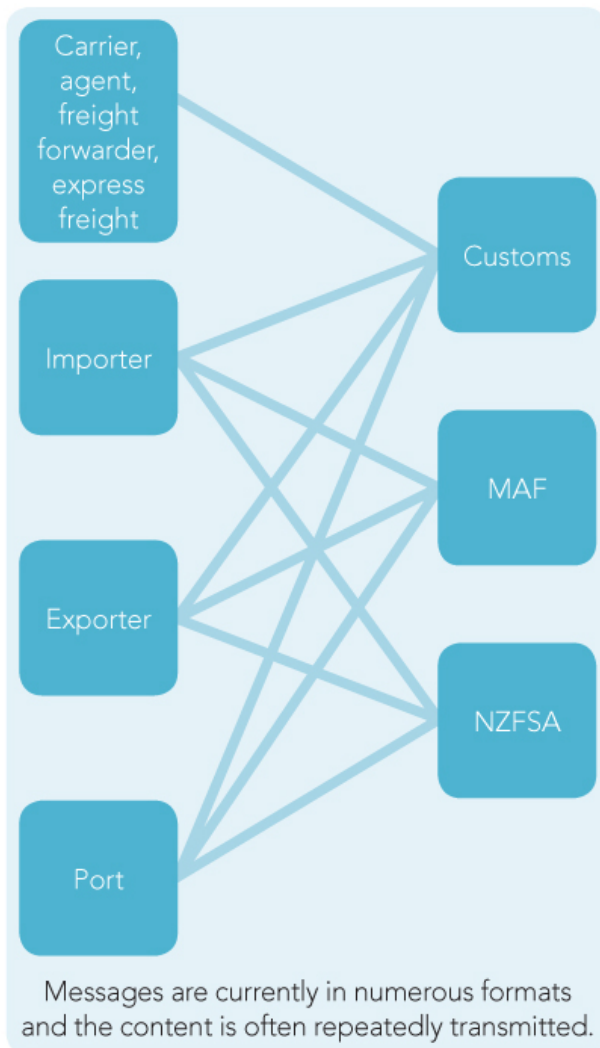
The Joint Border Management System (JBMS) currently being developed by MAF and NZCS will address several of these issues. The JBMS will replace the existing processing systems run independently by the two agencies (NZCS's CusMod system and MAF's Quantum system). These systems have been in place since the mid-1990s and have not kept pace with the increasing complexity and changing demands of border agencies, nor with progress in information communication technologies.

The JBMS system will include the Trade Single Window (TSW) which will reduce duplication of paperwork by allowing exporters and importers to submit information once, rather than to multiple agencies. The TSW

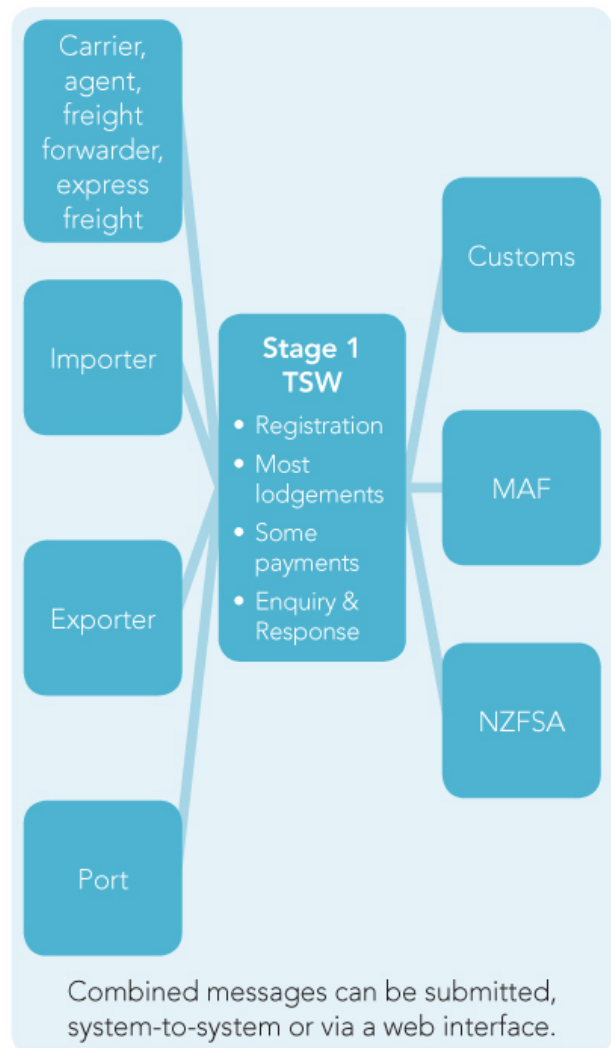
will therefore create a more streamlined, less fragmented interface with border agencies. Figure 7.1 compares the current border system with the system after the implementation of the TSW.

Figure 7.1 Current and future border system

Current border system



Border system with TSW



Source: NZCS website: www.customs.govt.nz

The TSW and the JBMS will be developed in two stages. The first stage, budgeted to cost NZ\$75 million, is due to be introduced at the end of 2012 and will include functionality such as the ability to lodge craft and cargo clearances, make online payments and check on the status of cargoes.

The second stage will, subject to government funding approval, replace the remaining 'back office' systems used by MAF and NZCS to undertake business functions such as scheduling audits and tracking compliance records.

Replacing the remaining back office systems will improve coordination between MAF and NZCS activities, thus preventing problems such as the double-handling of containers to accommodate audits from multiple agencies. This investment will further improve the efficiency of border agencies and, subject to the business case being developed by MAF and NZCS, appears to be a worthwhile investment.

The second stage of the JBMS will not 'go live' for several years (assuming that it receives government funding). Low-cost measures of improving coordination in the meantime need to be further explored. The Commission welcomes the recent announcement of the Future Directions for the Border Sector initiative – a programme of work aimed at identifying avenues through which the customs, immigration and primary industries portfolios can operate together more effectively. Recommendations arising from the Future Directions initiative will be provided to Cabinet by the end of 2012 (NZCS, sub. DR97, p. 2).

In addition to identifying the areas where border agencies can operate together more effectively, the Future Directions initiative should develop (and publish) transparent and quantifiable performance measures against which progress can be monitored. These performance measures should form the basis of the planned six-monthly reports to Cabinet on the progress of cross-agency cooperation.

Ministerial oversight of the Border Sector Governance Group has been strengthened for the Future Directions work programme⁶⁷ (NZCS, sub. DR97, p. 2). It is recommended that active oversight of border agency cooperation continues beyond the conclusion of the Future Directions initiative.

Box 7.2 Stakeholders' comments on New Zealand's border agencies and the JBMS

Port of Napier

A far quicker adoption of the paperless Trade Single Window project (as part of the Joint Border Management System promoted by MAF and Customs) would greatly simplify current processes relating to a range of border issues, including security. A single electronic entry covering all imports and exports and transmitted seamlessly to all parties in the logistics chain is essential at the earliest opportunity. (sub. 10, p. 10)

New Zealand Customs Brokers

...there is some concern that the audit regime costs are an area where there is unproductive cost incurred and a need for uniformity in audit procedures and requirements. There is also a need to reduce the number of departments that an individual or company must deal with for the release of a shipment, additional complexity leads to additional costs. (sub. 17, p. 5)

Employers and Manufacturers Association (Northern) Inc.

The most obvious improvement areas are around provision of information and timely release of goods by Customs/MAF-biosecurity for imports and for ensuring all documentation for the intended market is provided early for exports. (sub. 7, p. 16)

Air Cargo Council of New Zealand

This is an area where airlines at the operational level see scope for considerable improvement. In this regard we are encouraged by the steps currently being taken by the New Zealand Customs Service and MAF under the JBMS umbrella to introduce the trade single window system.

We are however apprehensive at the prospect of costs being imposed on industry through two government agencies replacing their own inadequate ageing systems which needs to be done for them to undertake their statutory functions. (sub. 8, p. 6)

Federated Farmers

The development of the Joint Border Management System (JBMS) is seen as the main initiative to reduce import and export costs. A system that allows the sharing of processes, data and technology between MAF and Customs should create a more efficient lower-cost system, which is welcomed if properly implemented. As with any new system, it is important that consistency in meeting end goals is applied, as one of the reasons for increasing border clearance costs and the current cost under recovery is the inconsistent application of charges [sic] from the government agencies. (sub. 27, p. 10)

New Zealand Public Service Association

Freight costs include fees and costs for customs and biosecurity measures. There is good reason for these charges: they ensure that prohibited or dangerous goods do not enter New Zealand and prevent biosecurity incursions. They also allow our exports to be certificated so that our trade partners can have confidence in the quality of the New Zealand goods and the produce being exported meeting their import requirements. (sub. 18, p. 2)

⁶⁷ The Border Sector Governance Group consists of representatives from New Zealand's core border agencies. The group's purpose is to increase overall efficiency at the border through better collaboration and closer coordination.

F7.4

The Trade Single Window will provide exporters and importers with a more streamlined, less fragmented interface with border agencies.

F7.5

While the second stage of the Joint Border Management System project will largely address coordination issues between the Ministry of Agriculture and Forestry and the New Zealand Customs Service, the introduction of this system is several years away.

R7.2

The recently announced Future Directions for the Border Sector initiative should develop transparent and quantifiable performance measures for border cooperation. These measures should form the basis of the planned six-monthly reports to Cabinet. Active oversight of the Border Sector Governance Group by border sector Ministers should continue beyond the completion of the Future Directions programme of work.

Promoting dynamic efficiency within border services is important but difficult

To promote dynamic efficiency, border agencies must continuously search for new and innovative ways to achieve their objectives. One example of this is the increased use of paperless electronic border clearances. NZCS notes:

Customs' business strategy, since the early 1980s, actively considers ways to reduce the impact border management has on the efficiency of international supply chains. It was one of the first administrations in the world to embrace paperless electronic border clearance. Goods processing went from paper based manual systems, that took 10 days on average to clear goods, to a national paperless computer processing system that takes less than 30 minutes.

New Zealand Customs Service, sub. 34, p. 3

Such innovations can be more difficult to implement in the public sector than the private sector. Reasons for this include:

- Public agencies are often monopoly suppliers of goods and services where the social and political costs of 'getting it wrong' are high, and the rewards for introducing new ways of doing business are low.
- Public agencies operate in a political and media environment that rewards pointing out examples of public sector failures and is intolerant of the perceived 'waste' that can often come with experimentation.
- Innovation and productivity can be harder to measure in the public sector, making it more difficult to hold decision makers accountable for their choices (State Sector Reform Secretariat, 2011).

It is also important that the adoption and utilisation of new technologies within border agencies is not inadvertently held back by existing legislation. The Commission has heard that elements of the current border legislation have not kept pace with the global changes in trade, travel and methods of exchange such as internet trading. NZCS notes in its submission:

The current Customs and Excise Act 1996 was developed in the early 1990s. Since then, the trade environment and the types of risks confronted at the border have changed significantly. The legislation has been continually adapted and amended to enable systems and processes to respond to events as they occurred. However, a total review is likely to be required to enable efficiency gains from information management and compliance partnerships to be realised.

New Zealand Customs Service, sub. 34, p. 8

The Customs and Excise Act 1996 should be added to the Government's Regulatory Review Work Programme. A review of this legislation is required due to the rapid pace of development in the area of information management and the growing need for accurate and timely communications with overseas agencies.

R7.3

The Customs and Excise Act 1996 should be added to the Government's Regulatory Review Work Programme with a view to assessing whether it is fit for purpose in light of changes to border management practices and developments in technology since 1996.

Rising security costs are impacting exporters

Since the events of 9/11 there has been a global trend towards increased security at air and sea ports. These security measures have been heavily influenced by the requirements of the United States Implementing the 9/11 Commission Recommendation Act of 2007 – known as the 9/11 Act – which requires strict screening regimes for US-bound cargo (Morrell, 2011). Similar legislation exists within the European Union.

Increased security measures can increase the cost of international freight services. For example, the costs of additional security equipment (such as X-ray machines and cargo scanners) may be recovered from importers and exporters. A further cost to shippers arises from delays in the supply chain, when security measures cause bottlenecks at either the point of departure or the destination.

The scale of delay costs depends on a number of factors. In general we can say:

- The costs will be larger if they result in a cargo missing its shipping window or flight (or if a cargo needs to be diverted from its original route to comply with security procedures).⁶⁸
- Perishable goods may lose a significant proportion of their value if delayed, while non-perishable goods may suffer little impact.
- The possibility of delays may cause companies to maintain higher inventories. This is particularly costly for companies operating 'just-in-time' which generally only carry small inventories (Cirincione, et al., 2007).

It is difficult to quantify the magnitude of costs attributable to additional security requirements overseas. However, several stakeholders expressed concern at the potential for overseas requirements to have a material impact on New Zealand trade. For example, the Air Cargo Council of New Zealand suggests that:

...the ever mounting aviation security costs imposed on airlines and other parties in the supply chain are of very real concern, furthermore some of the requirements emanating from USA are putting New Zealand's air cargo exports at risk.

The New Zealand Government needs to put more resource into ensuring that the New Zealand security system for air cargo exports (Civil Aviation Rule 109) is of a very high standard and that this is known and accepted by the rest of the world leading to no further need to meet the requirements of other States.

Air Cargo Council, sub. 8, p. 5

Similarly, the Meat Industry Association comments that:

Security-related requirements being imposed by governments, particularly in Europe and the US, increase costs and transit times for New Zealand exporters. These security-related requirements take a 'blanket' approach rather than a risk-based approach to security measures, and do not recognise that cargo from some countries, such as New Zealand, poses very little risk.

New Zealand has over the years developed robust and well-respected border and security systems and scientifically based assurance systems and processes, which the government can use in the negotiation of equivalency arrangements, in order to mitigate the impact of these security requirements.

Meat Industry Association, sub. 52, p. 5

Mutual Recognition Agreements (MRAs) are an important strategy for reducing security-related delays. These are formal arrangements between the NZCS and overseas agencies with similar supply chain security standards.

⁶⁸ If the delayed cargo can still be loaded on its scheduled carrier, there is little or no cost to the shipper.

In New Zealand, MRAs link with the Secure Export Scheme (SES), under which businesses maintain an agreed level of security and data integrity in return for 'SES partner status'. The mutual cooperation enabled by MRAs means that overseas border agencies in mutually recognised countries treat sea cargo imported goods from SES partners as 'low security risk'. This increases the speed and ease with which their goods pass through border procedures (NZCS, 2011). NZCS has signed MRAs with the United States and Japan, and is currently negotiating an arrangement with South Korea. NZCS explains:

In recent years, Customs has entered into export security screening arrangements with some of New Zealand's major trading partners to enhance the ease of access into their markets. The process gives an overseas importing administration confidence to quickly clear New Zealand exports on arrival. The current container security initiative undertaken in New Zealand involves a non-intrusive pre-load vetting process that has minimal impact on the export supply chain.

New Zealand Customs Service, sub. 34, p. 4

NZCS also notes that clearance times for cargo at Japanese ports are 60% faster for SES partner members than for other cargo, and that sea containers from SES partners are 3.5 times less likely to be subject to security checks or inspections in the US (sub. 34, p.12).

While the inquiry has not found quantitative evaluations of the net economic benefits of MRAs, qualitative evidence suggests that they improve the efficiency of the international freight logistics chain. The targeted pursuit of further agreements, based on New Zealand's current and predicted patterns of trade and on the nature of the cargoes being exported, appears worthwhile.

At present MRAs only exist for containerised sea freight. Extending their coverage to air cargo, and in particular to time-sensitive, perishable foods (such as salmon) should be a priority.

F7.6

Qualitative evidence suggests that Mutual Recognition Agreements improve the efficiency of the international freight logistics chain.

R7.4

The Government should place emphasis on developing mutual-recognition schemes for New Zealand air cargo exports with a view to reducing delays for time-sensitive exports caused by increased security requirements.

Border services cost-recovery measures compare well with Australia

New Zealand's border agencies have a number of cost-recovery mechanisms, designed to be consistent with Treasury and the Office of the Auditor General good-practice guidelines on costing and charging for public sector goods and services.

Two key principles of these cost-recovery measures are the 'beneficiary pays' and the 'risk exacerbator pays' principles.

The beneficiary pays approach seeks to recover costs from parties who benefit from the output of a government service. This includes those who would be worse off if the service was not provided (Treasury, 2002, p.12). The principle is based on the idea that people who do not benefit from a service should not have to pay for it, while those that do benefit should contribute (in part or full) to its cost.

Where the beneficiaries are the community in general (for example, through the provision of a public good), the community should contribute to the costs of the service (usually through taxes). Where the beneficiaries can be readily identified, then it is efficient for them to contribute to the cost of the government service as long as the costs of collection, compliance and enforcement are not prohibitively high (Treasury, 2002).

The 'risk exacerbator pays' principle, on the other hand, recovers costs from those who increase the risk of an adverse event – such as the introduction of a new species of pest, plant or animal. This risk is present whenever people or freight enter the country.

In general, New Zealand's border agencies apply the beneficiary pays principle to services that enhance public goods and those that promote exports, and apply the exacerbator-pays principle in the case of imports.

Export fees and charges compare favourably with Australia

Businesses incur a range of fees and charges when exporting goods from New Zealand. These include documentation charges, fees for services and charges for export registration. Exporters also receive a number of benefits from New Zealand border agency activities – particularly in relation to facilitating access to overseas markets.

The level and type of costs recovered from exporters are largely influenced by the nature and destination of the exported product and the beneficiaries of the services provided. As noted by MAF:

Many biosecurity activities are Crown funded, either because they have public good elements, or because there is no basis for third party funding under the Biosecurity funding principles.

Other services provided by MAF are recovered from export industries. Some of the services benefit the industry as a whole, and are recovered by way of a fixed fee per export consignment.

Ministry of Agriculture and Forestry, sub. 32, p. 8.

With a few exceptions, the fees imposed on New Zealand exporters are lower than the comparable fees imposed on Australian exporters – sometimes considerably so. This is illustrated in Table 7.2 which compares a selection of fees imposed on exporters of fish, dairy and meat (lamb).

F7.7

Registration, certification, and inspection fees and charges paid by New Zealand exporters are, in general, lower than those imposed on Australian companies exporting similar products.

Table 7.2 Selected export fees and charges in New Zealand and Australia (2011 NZD)

	New Zealand	Australia
Application fee for registration as exporter		
Fish	\$137 per application plus assessment charge of \$34/quarter hour	\$788 per application
Dairy	\$137 per application plus \$137/hour in excess of 1 hour processing application	\$788 per application
Meat	\$137 per application plus assessment charge of \$34/quarter hour	\$788 per application
Official assurance/certification		
Fish	\$36	\$52 (Electronic certification) \$131 (Manual certification)
Dairy	\$137/hour or part hour	\$27 (Electronic certification) \$131 (Manual certification)
Meat	\$36	\$65 (Electronic certification) \$131 (Manual certification)
Inspections/audits (veterinary verifiers)		
Fish	\$93/hour	\$52/quarter hour (fee for service)

	New Zealand	Australia
Dairy	\$184/hour	\$43/quarter hour (fee for service)
Meat (food safety assessor)	\$68/hour	\$118/hour

Source: www.legislation.govt.nz; www.daff.gov.au

Notes:

1. Assumes an exchange rate of 1 NZD = 0.76 AUD. Figures rounded to the dollar.

Import fees and charges compare favourably with Australia

Importers of goods into New Zealand face a range of fees and charges including an import entry transaction fee, a biosecurity levy, and fee-for-service charges relating to cargo inspections. The level of fees incurred by an individual importer for cargo inspections depends on a range of factors such as the type of goods being imported, whether the cargo arrives by sea or air, and the cargo's country of origin. Table 7.3 summarises the main fees in New Zealand.

Table 7.3 Cost-recovery charges on imports

Cost-recovery mechanism	Amount
Inward Cargo Transaction Fee	\$359.82 (goods carried by sea)
	\$30.66 (goods carried by air)
Import Entry Transaction Fee	\$25.30 (all goods by sea and air)
Biosecurity Levy	\$12.77

Source: NZCS, sub. 34. p. 6

A comparison of the fees and charges in New Zealand with those faced by Australian importers showed that, in general, New Zealand fees and charges compare favourably with similar charges imposed by Australian agencies.⁶⁹ For example, compared to Australian importers, New Zealand importers generally pay lower import cargo transaction fees and less per hour for veterinary and customs inspections (if required).

These findings are consistent with the conclusions of the Australian Productivity Commission Review of Food Imports and Exports (Australian Productivity Commission, 2009). They are also consistent with views expressed by stakeholders. For example:

...[Ravensdown] is familiar with biosecurity measures for fertiliser importation in Australia and NZ. Here in NZ, the system is much more pragmatic, lower cost, but equally as effective as Australia. In Australia the AQIS system is complex and excessive. It creates a significant hidden cost to the Australian economy due to the limitations on the ships that can be used to import bulk cargoes based on their previous cargo history.

Ravensdown Fertiliser Co-Operative Ltd, sub. 3, p. 5

F7.8

Fees and charges imposed on New Zealand importers generally compare favourably with those imposed by Australian border agencies.

The Joint Border Management System will be partly funded by industry

The JBMS will be partly funded by costs recovered from industry. The JBMS Joint Policy Team, which consists of representatives from MAF and NZCS, is currently considering alternative cost-recovery

⁶⁹ The comparison seems valid given the similar biosecurity and customs standards in the two countries; however, the comparison is complicated by differences in the cost-recovery mechanisms.

mechanisms. They anticipate consulting on proposals for cost recovery between March and June 2012, with a view to finalising the cost-recovery mechanism by December 2012.

In recovering costs for the implementation of the JBMS it is worth noting:

- Applying the 'risk exacerbator pays' principle is consistent with recovering some of the costs for the JBMS from importers.
- Applying the 'beneficiary pays' principle is consistent with some level of public funding for JBMS. It would also imply that exporters should contribute to the cost of the system.

It is preferable (and more equitable) to cover capital cost via depreciation over the life of the JMBS rather than recover capital costs as they are incurred. This approach broadly matches payments over time to the stream of benefits generated by the JBMS. This method was not adopted in the past, resulting in some stakeholders questioning why the government is now seeking to recover costs for replacing outdated infrastructure.

Previous cost-recovery processes may not have adequately accounted for asset depreciation – the result being that fewer costs were recovered from industry than the principles above would suggest. Nevertheless, it is important that these costs are recovered in an efficient and transparent manner over the life of the new system. The Commission therefore supports the recovery of capital costs over the lifetime of the JBMS.

8 Encouraging efficient investment and innovation

This chapter examines if there are impediments to efficient investment and innovation in New Zealand's freight supply chains, and highlights the parts of this report that address these impediments. It begins by explaining what dynamic efficiency is and why it's important. It then looks at likely future trends in freight markets and technology. The chapter also considers how the Resource Management Act 1991 could be changed to better encourage efficient investment.

Key points

- New Zealand freight volumes are predicted to increase substantially in the next 30 years. Investment and innovation in the freight sector will be needed.
- There are impediments to efficient investment and innovation in the freight sector. Regulations and institutions can be improved.
- The Resource Management Act can be improved to better encourage efficient investment. Section 5 of the RMA should be reviewed to clarify the consideration of net social benefits and costs. If the Government decides not to review the purpose statement it should develop a National Policy Statement for transport infrastructure.
- The reforms introduced under the Resource Management (Simplifying and Streamlining) Amendment Act 2009 are leading to improvements in the timeliness and cost of the consent process.

8.1 What is dynamic efficiency and why is it important?

Dynamic efficiency is about developing new products and services, and investing in better ways of producing existing products and services. It is driven by investment and innovation.

Dynamic efficiency has been given increased emphasis in recent decades, both in discussions of economic growth and in policy assessment. The OECD concludes that "it seems likely that dynamic efficiencies have a considerably greater potential to benefit consumers than static efficiencies" (OECD, 2007, p.10). It also notes that "innovation is responsible for most of the increase in material standards of living that has taken place since the industrial revolution" (OECD, 2007, p.10).

Competition often stimulates dynamic efficiency as firms try to escape the consequences of price competition – for example, by adopting a new, more efficient process a firm may not only reduce costs but also gain market share. Impediments to competition are covered in Chapter 5.

Dynamic efficiency can sometimes be harmed by a lack of scale, making large investments uneconomic, and by coordination failures. Coordination failures are covered in Chapter 9.

8.2 Likely future trends in freight markets and technology

New Zealand freight volumes are predicted to increase substantially in the next 30 years. The National Freight Demand Study (Richard Paling Consulting, 2008) forecasts that from 2007 to 2031 freight transport

of various commodities will increase by about 70–75%.⁷⁰ Treasury's 2011 National Infrastructure Plan included Ministry of Transport projections that in the 20 years to 2030, freight tonne kilometres will increase by 28%, and up to 61% in a high-growth economy (National Infrastructure Unit, 2011, p.27).

The 2010 National Infrastructure Plan also points out that "the specific infrastructure needs will depend not just on the level of growth but on how any particular growth and productivity path is realised" (National Infrastructure Unit, 2010, p. 73). This is supported by the New Zealand Transport Agency (NZTA), which notes that:

Participants in the discussion [Upper North Island Freight Plan] emphasised that the nature of the freight task, and the way it was being organised was undergoing significant change. While all agreed that the volume of freight was increasing, most participants believed that this increase would not be uniform with some areas and corridors experiencing more concentrated growth in both volumes and frequency of travel.

(NZTA, sub. DR100, p. 3)

The future size and shape of the freight sector is difficult to predict as it will be influenced by how trade patterns play out. However, the broad magnitude of these forecasts highlight the need for future investment in capacity and innovation in the freight sector. Treasury's National Infrastructure Plan concludes that "increases in freight movement will put pressure on New Zealand's road, rail and port infrastructure. Developing these networks to provide the right level of service in the right location, and support the export sector will be a key focus for transport infrastructure providers." (National Infrastructure Unit, 2011, p.27)

Meeting the expected growth in freight volumes will require efficient investment decisions. Inadequate investment in any part of the chain can increase costs in other parts of the supply chain (eg, congestion costs and costs of delays). Conversely, excessive investment or the wrong sort of investment is wasteful.

Dynamic efficiency will also require the efficient and effective adoption of innovations. Major changes in logistics technology over the next few decades are likely. These may be driven by trends such as increasing concern for the environment, pressure for more rapid and flexible delivery, and new communication technologies. Given these trends, entrepreneurs have been drawn to innovations in freight transport aimed at:

- supporting complex networks of freight operators and users within supply chains;
- encouraging regular and reliable services;
- promoting real-time information access and exchange to help scheduling and tracking;
- minimising environmental costs; and
- greater efficiency by reducing human operation and/or labour intensity.

In the New Zealand freight sector, dynamic efficiency through innovation is likely to come mainly from the adoption of new technology and processes that have been developed overseas. There are many examples of past innovation. These include the development of electronic data interchange (EDI), automated product movement in distribution centres and warehouses, and track and trace systems (see Box 8.1). Similarly, vehicle design has advanced with larger ships (New Zealand Shippers' Council, 2010) and more fuel-efficient planes, trucks and trains. Table 8.1 provides more examples of past and potential future innovations.

⁷⁰ The study provides 30-year projections (from 2006/07) of the freight task (tonnes and tonne-kilometres) by mode, commodity group, and data on inter-regional flows. It includes a detailed discussion of the many influences on both projected volumes and supply responses. These include cost factors specific to particular modes and macroeconomic growth influences.

Table 8.1 Examples of innovations in the freight sector

Service	Innovation
All	Information and communication technology, both within components of freight transport systems and to promote linkages and the integration of information flows along the supply chain. Intelligent transport systems can reduce the need for human involvement in data collection and entry. (See Box 8.1)
Ports	Automation of port and airport equipment and processes, such as the use of GPS technologies. For example, both the Ports of Auckland and the Port of Tauranga are using GPS to monitor the performance of straddle carriers and stacking cranes. Robotic straddles for container marshalling and new scheduling software, and optimisation of container stacking. Some New Zealand port companies have developed inland ports to consolidate freight and compete with other ports (Ports of Auckland's Wiri inland port, Port of Tauranga's MetroPort).
Road	Greater fuel efficiency through new engine technologies and more aerodynamic trucks. Other innovations include: increased payload capacity, improved compliance with regulations, and improved driver safety (Christensen, et al., 2010).
Rail	Technological innovations in rail freight internationally have reduced the weight of wagons and containers, facilitated loading and unloading of freight at depots, and increased the capacity and speed of rail transport (Pimenta, 2009).
Airlines	New aircraft: There is significant international investment in R&D and aircraft-building to improve fuel efficiency and passenger/freight capacity. For example, Air New Zealand has placed orders for Boeing's new 787 'Dreamliner'. The 787 is calculated to offer fuel savings of up to 20%, while still being able to carry 50% more cargo than jet aircraft of a similar size (Mayerowitz, 2011). New airline business models: Business models for international airlines are currently evolving, driven by airline alliances and hub-and-spoke networks to improve capacity and plane utilisation. These evolving business models are largely passenger-driven.
Shipping lines	Larger ships (described in Chapter 9). New pricing and financial instruments from shipping lines. For example, a new 'container swap' instrument enables a shipper to buy a contract to ship containers in the future at a certain fixed price. The Ministry of Transport considers that this could assist medium-sized New Zealand shippers to hedge their trading costs (Ministry of Transport, 2010a).
Freight forwarders	The development and implementation of new electronic systems for seamless tracking and tracing of products. New business models: For example, section 5.2 discusses the Kotahi freight coordination arrangement being proposed by Fonterra Co-operative Group Limited in consultation with Silver Fern Farms. New Zealand horticultural exporters are driving innovations in freight handling. For example, new tray configurations and new protocols and temperature management software in the horticultural industry (Ministry of Agriculture and Forestry, sub. 32).
Customs, security and biosecurity	MAF is currently developing a Joint Border Management system (JBMS) with a Trade Single Window (TSW). This will reduce compliance costs and create a more streamlined interface with border agencies. See Chapter 7.

Box 8.1 Information & communication technology and intelligent transport systems

Parts of the international freight sector have improved their performance by adopting information and communication technology (ICT) (Ballis, 2008). Such innovation supports interconnection between shipping lines, ports, transport companies and shippers (Notteboom & Rodrigue, 2009). For example,

the provision of online technologies by freight operators allows stock to be managed, tracked and traced worldwide. This can help importers and exporters to access overseas markets more cheaply and effectively. The major New Zealand freight operators generally offer, or have access to, some form of online tracking and tracing of international shipments. However, the extent to which each part of the supply chain is covered varies. Human intervention is usually required at various stages in order to maintain data integrity.

A further example of innovation is intelligent transport systems (ITS) (Ioannou, 2008; Beiki, 2010). Freight ITS have similar characteristics to earlier ICT innovations, allowing interface between components. However, freight ITS can remove the need for human involvement in data collection and entry. An example of a freight ITS is radio frequency identification (RFID), which can enable identity, location and sensory information to be stored on a tag and transmitted when and where it is required (Beiki, 2010; Shi, Tao and Voss, 2011). The potential of RFID technology is significant. Some consider it will be a cornerstone of economic growth over the next 50 years (Sundmaeker, Guillemin, Freiss and Woelffe, 2010).

8.3 Impediments to dynamic efficiency

Table 8.2 identifies potential impediments to efficient investment and innovation in the international freight system and where they are dealt with in this report. The table covers impediments that may be caused by regulations; other government interventions, ownership and governance, and planning.

Table 8.2 Investment and innovation issues

Service	Investment and innovation impediment	How this report addresses the issue
All	<p>The nature of some freight investments (large and 'lumpy'), demand (uncertain) and the supply chain (multiple independent decision makers) creates significant risks of under- and over-investment.</p> <p>The Resource Management Act (RMA) may be distorting resource allocation and planning decisions.</p> <p>Some argue that the RMA is overly costly, time consuming and bureaucratic.</p>	<p>Chapter 9 recommends the greater use of facilitative discussions and information sharing to aid investment planning.</p> <p>Chapter 13 recommends the Ministry of Transport develop a proposal to extend the Freight Information Gathering System.</p> <p>Section 8.4 considers changes to the RMA. It provides several recommendations including reviewing the purpose statement.</p> <p>Section 8.4 concludes that recent reforms to the RMA are leading to improvements in the timeliness and cost of the consent process. Implementing the recommendations in this report will also help.</p>
International shipping lines	Commerce Act and Shipping Act exemptions may affect the level of investment and innovation in international shipping lines services to and from New Zealand.	Chapter 11 examines New Zealand's regulation of international sea freight competition. It recommends exemptions for the types of agreement with the higher risk of anti-competitive detriment – ratemaking (for freight and port charges) and capacity-limiting agreements – should be removed. These arrangements should have access to the authorisation and clearance mechanisms in the Commerce Act. The exemption for non-ratemaking agreements should be retained in the Shipping Act 1987. This will promote competition while allowing beneficial arrangements.

Service	Investment and innovation impediment	How this report addresses the issue
Seaports	<p>Weak governance and multiple objectives in publicly owned firms can contribute to problems in investment planning</p> <p>Investment will be required for 'bigger ships' to service New Zealand ports. Some believe that without strategic planning and immediate investment, New Zealand will fail to attract bigger ships.</p> <p>The RMA may be a barrier to physical expansion of some ports.</p>	<p>Chapter 10 considers the governance and ownership arrangements at New Zealand ports. It recommends: that the legislated principal objective of council-controlled port and airport companies should be "to be a successful business, as profitable and efficient as comparable businesses that are privately owned"; elected representatives and council staff should be precluded from being directors of council-controlled port companies; port companies should regularly publish economic-value added analyses for their operations; and councils should consider increasing the degree of private ownership and listing on the stock market.</p> <p>Chapter 9 looks at whether strategic planning is a potential solution to inefficient investment in transport infrastructure, especially at ports. The Commission finds that prescribing a single approach to investing to support bigger container ships is unlikely to be an efficient way to deal with the significant investment risks.</p> <p>Section 8.4 finds that the Government should consider conducting a review of including port companies as network utility operators in section 166 of the RMA.</p>
Road freight	Heavy vehicle regulations may be limiting the uptake of high productivity motor vehicles (HPMV)	Chapter 13 discusses HPMV regulations. It recommends that the Government examine ways to share the increased road user charge revenue from high productivity motor vehicles with councils, so as to encourage the local road upgrades required to support these vehicles.
Airports	The efficient level of investment by airports is a matter of significant debate between airports and airlines as part of the Commerce Act regulatory process.	Chapter 13 discusses the regulation of Airports by the Commerce Act.
Rail	While there is investment in rail in New Zealand, it is funded by government and is not expected to yield economic returns in the short to medium term.	<p>Chapter 13 discusses rail investment and subsidisation. The Commission notes that the focus should not be on evaluating whether past investment should have occurred, but on what is the optimal strategy for the future.</p> <p>Chapter 9 recommends the Government seek ways to improve the transparency of decision making around road and rail infrastructure projects, including the publication of cost-benefit analyses.</p>
Customs, security and biosecurity	Technology and methods for managing border risks are constantly evolving. Border agencies must search for innovative ways to achieve their objectives.	Chapter 7 recommends the Customs and Excise Act 1996 be added to the Government's Regulatory Review Work Programme with a view to assess whether it is fit for purpose in light of changes to border management practices and developments in technology since 1996.

8.4 Resource Management Act

Investment in transport infrastructure can impact New Zealand's natural and physical resources. The principal legislation for managing these impacts is the Resource Management Act 1991 (RMA). This section looks at whether the RMA is impeding efficient investment in the freight supply chain and considers ways the RMA could be improved.

The Commission recommends reviewing the purpose statement of the RMA (s.5) to clarify and elevate the consideration of net social benefits and costs.

If the Government decides not to review the purpose statement of the RMA, the Commission recommends:

- A National Policy Statement (NPS) for transport infrastructure should be developed. This would provide guidance for local authorities when considering competing national and local priorities.
- Including specific reference in s.6 (matters of national importance) to the development and operation of regionally and nationally significant infrastructure.

The Government could also consider treating ports as a 'network utility operator'. This may promote efficiency by allowing ports expand physically.

The rationale for these recommendations and findings is explained below.

What is the RMA?

The purpose of the RMA is to "promote the sustainable management of natural and physical resources" (s.5). "Sustainable management" is defined in s.5 (2) of the Act as follows:

In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—

- (a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
- (b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and
- (c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

This is achieved through the development of district and regional plans. These plans set out the activities that do not need resource consent within a given geographic area. The RMA also includes a process where individuals or business can apply for 'resource consent' to undertake an activity that requires council approval. The need for resource consent may also be specifically required under a regional plan. The 2009 amendments to the RMA allow parties to apply to the council to have their application heard directly by the Environment Court, rather than have it first heard by council. Applications can also be lodged directly with the newly formed Environmental Protection Authority (EPA), which can make recommendations to the Minister as to whether or not a matter should be referred directly to a board of inquiry or the Environment Court.

Responsibility for implementing the RMA is largely delegated to local authorities. This is because it is assumed that the best people to make resource management decisions are those that have the largest amount of information and will be most affected by the decisions.

The role of central government under the RMA is to provide policy guidance on matters of national significance and to oversee the implementation of its provisions.

Issues raised during consultation

A number of submissions highlighted the need for a more balanced approach to weighing up local and national implications of transport infrastructure projects. Specific concerns were:

- the RMA's purpose statement being unclear;

- the absence of recognition of the importance of transport infrastructure within the RMA;
- the need for additional central government guidance in planning for a nationwide transport infrastructure network;
- the long delays that can be associated with producing regional and local policies and plans because of de novo Environment Court hearings; and
- the omission of seaports from the list of 'network utility' operators.

In addition the Commission heard a number of concerns regarding the rigidity, complexity and cost of the consent approvals process.

Other public inquiries on the RMA

These concerns mirror those expressed during other public inquiries and are widely acknowledged by both central government and local authorities. To address these and other issues, in 2008 the Government launched Phase 1 of a two-phase RMA reform agenda.

The principal outcome of Phase 1 was the introduction of the *Resource Management (Simplifying and Streamlining) Amendment Act 2009*. This Act introduced amendments aimed at:

- streamlining and simplifying consent procedures;
- improving the approvals process for nationally significant projects;
- reducing costs and time taken to prepare and change local plans; and
- improving the effectiveness of national instruments such as National Policy Statements (NPS) and National Environmental Standards (NES) (Ministry for the Environment, 2009).

Phase 2 of the RMA reforms is currently in progress and includes a work stream dedicated to improving infrastructure provisions, including the application of the *Public Works Act 1981*. As part of Phase 2, the Minister for the Environment formed the Infrastructure Technical Advisory Group (ITAG) and the RMA Principles Technical Advisory Group (RMA PTAG).

The scope of ITAG group's work included a review of how the designation processes apply to infrastructure projects, and an investigation of alternative ways of planning for and managing the effects of activities on network infrastructure.

RMA PTAG is to undertake a focused review of s.6 and s.7 of the RMA. These sections provide guidance for local authorities by listing 'Matters of National Importance' (s.6) which must be 'recognised and provided for'⁷¹ and 'Other Matters' (s.7) which must be given 'particular regard'. RMA PTAG has not yet published its findings and recommendations.

In reaching its findings and recommendations, the Commission has considered the views expressed by inquiry participants, the 2009 Amendments to the RMA, and the work undertaken by the Technical Advisory Groups.

How to improve the RMA

Transport infrastructure projects commonly result in dispersed benefits and costs that can have national implications for wellbeing. Efficiency is promoted when all of these costs and benefits are taken into consideration when making a planning or consent decision.

⁷¹ These matters include the preservation of the coastal environment, the protection of natural features, indigenous vegetation, heritage values and certain customary rights (RMA s.6).

However, inquiry participants have suggested the current wording of the RMA does not adequately recognise a) the contribution of transport infrastructure to the social and economic wellbeing of New Zealanders; or b) the inherent trade-offs involved in infrastructure projects.

Clarify the purpose statement of the RMA

There is ambiguity around whether s.5 (a), (b) and (c) of the Act allows for the ‘balancing’ of socio-economic aspirations with environmental outcomes, or whether these provisions represent an ‘environmental bottom-line’ that must be secured regardless of the social or economic cost (LexisNexis NZ Limited, 2011; Skelton and Memon, 2002; Upton, Atkins and Willis, 2002).

While both interpretations of s.5 have been adopted by the courts,⁷² a strict ‘environmental bottom-line’ interpretation appears at odds with the efficient use of society’s natural and physical resources. That is, it may preclude projects that make a positive contribution to the wellbeing of current and future generations of New Zealanders.

Because of this ambiguity there is a case for reviewing s.5 with a view to clarifying (and elevating) the consideration of net social benefits and costs (including those at a national level). The Commission recognises that the Government might want to consider the case for such a review in a wider context than transport alone.

F8.1

There appears to be ambiguity around the interpretation of the purpose of the Resource Management Act 1991 (RMA) and the extent to which the Act allows the balancing of socio-economic aspirations with environmental outcomes.

If the Government decides not to review the purpose statement of the RMA, the Commission supports ITAG’s recommendation that s.6 of the RMA be amended to include specific reference to the development and operation of regionally and nationally significant infrastructure. This would mean local authorities would need to recognise and provide for transport infrastructure during the planning process and when considering applications for resource consent.

R8.1

Section 5 of the Resource Management Act 1991 should be reviewed to clarify the consideration of net social benefits and costs including those accruing at a national level.

Should the Government decide not to review s.5, s.6 of the Resource Management Act should be amended to include specific reference to the development and operation of regionally and nationally significant infrastructure.

Greater central government guidance on transport infrastructure priorities

While responsibility for implementing the RMA is largely delegated to local authorities, central government plays an important role in providing guidance on issues that involve balancing local values with regional or national benefits. Several stakeholders highlighted the need for a greater level of central government guidance, particularly where trade-offs exist between infrastructure development and competing local land uses.

The need for coordinated decisions is made more important by the network nature of road and rail, and the fact that this infrastructure is provided by multiple levels of government. The submission from Local Government New Zealand typifies views expressed to the Commission on this issue:

Under the Resource Management and Local Government Acts councils are delegated the responsibility not only to pre-emptively plan for growth, but also to manage where and how growth should occur.

⁷² See, for example, *New Zealand Rail v Marlborough District Council* (1994) (balancing); *Foxley Engineering Ltd v Wellington City Council* (1994) (bottom-line); *Campbell v Southland District Council* (1994) (bottom-line); and *Trio Holdings Ltd v Marlborough District Council* (1997) (balancing).

Many of the constraints facing the current network are less about infrastructural capacity and more about balancing and integrating the competing demands for land use.

Local Government New Zealand, sub. 42, p. 5

F8.2

Central government plays an important role in providing direction on issues that involve balancing local values with regional or national benefits. Without clear signals from central government, national benefits and costs may be assigned a lower priority during the planning and consent process – resulting in a potential reduction in the overall wellbeing of society.

The RMA provides two mechanisms for guiding local authority decision-making on national matters. Part 5 of the RMA includes provision for the Minister for the Environment to develop National Policy Statements (NPS) that outline the objectives and policies for *matters of national significance*. An NPS can require local authorities to amend their plans and policies to reflect, or give effect to, the objectives and policies contained in the NPS (RMA, s.55).

Another mechanism available under Part 5 is the development of National Environmental Standards (NES). These standards may cover areas such as noise, water quality, air quality and contaminants (RMA, s.43, 44). An NES may allow or prohibit an activity in an area and can include quantitative standards, narrative statements, or methodologies that become binding on local authorities.

A number of participants in the inquiry raised the need for an NPS and NES covering the transport sector – particularly New Zealand’s airports and seaports. For example, the Institute of Professional Engineers New Zealand wrote:

The Productivity Commission might consider whether there would be a benefit in a National Policy Statement (NPS) or National Environmental Standards (NES) for ports or airports, similar to the NPS for electricity transmission. A NPS would provide guidance for local authorities to decide how competing national benefits and local costs should be balanced and the NES would assist in ensuring consistent approaches and resource consent decision-making processes throughout the country.

Institute of Professional Engineers New Zealand, sub. 25, p. 2

While the Government has a National Infrastructure Plan, there is no requirement under the RMA that the plan be taken into account by local or regional authorities when making planning decisions. For this reason the Commission believes that an NPS covering transport infrastructure would assist local authorities in prioritising land uses when making planning decisions. This has the potential to improve the efficiency of planning outcomes and reduce the administrative costs faced by socially desirable projects.

R8.2

The Minister for the Environment should commence development of a National Policy Statement for transport infrastructure. This would provide guidance for local authorities when considering competing national and local priorities.

A NPS for transport infrastructure will only be effective if regional and local policies and plans can be changed to implement it in a timely way. Local Government New Zealand’s submission highlighted the long delays that can be associated with producing such plans and policies. These delays also make it difficult for local governments to react to changing local conditions.

It takes on average around eight years for a local authority to develop a plan under the Resource Management Act and get it fully operative. Around a third of this time is associated with dealing with appeals to the Environment Court. This results in major costs to our environment, our economy and the well being of our people and communities.

Local Government New Zealand, sub. DR77, p. 4

Such long delays are not acceptable and are likely to be inefficient. A review of ways to reduce the time it takes to produce fully operational local government plans is warranted. One option that could be explored

is the Local Government New Zealand suggestion to remove the de novo Environment Court hearings on policy decisions (Local Government New Zealand, sub. DR77).⁷³

R8.3

The Government should review ways to reduce the time it takes to produce fully operational local government plans.

Consider treating ports as a 'network utility operator'

The RMA can impact the creation and expansion of ports. For example, CentrePort noted that:

The RMA remains the largest single barrier to improving ports so they can provide more cost efficient services to lines. It is clear container port facilities such as those at Sulphur Point (Tauranga) and CentrePort could not be created with the current RMA. The regulatory costs imposed on ports to expand to accommodate larger vessels will ultimately be paid for by the tradable sector and are a barrier to trade.

CentrePort, sub. 33, p. 3

Several submissions highlighted inconsistencies in the delegation arrangements set out in Part 8 of the RMA – in particular the observation that airports are listed as a 'network utility operator' while seaports are not (s.166).

Network utility operators have access to a number of legislative provisions – notably:

- Under the provisions of Part 8, approved network utility operators can apply to local authorities to have land designated to a particular use.⁷⁴ This is referred to as a 'designation', and once in place, the network utility operator may use the land acquisition provisions of the Public Works Act 1981. They are also given certain rights over the land. For example, the land cannot be subdivided without the written consent of the network utility operator (as the 'requiring authority').
- Network utilities operators listed in the RMA may use certain provisions under the *Marine and Coastal Area (Takutai Moana) Act 2011* – notably the ability to apply to the Minister of Lands for a 'lesser interest'⁷⁵ in reclaimed land under s.35.

Including ports as network utility operators could promote efficiency by allowing all possible options for expansion to be evaluated.^{76, 77} Participants in the inquiry noted that the omission of seaports from s.166 is constraining the physical expansion of some New Zealand ports.

This issue was also examined by ITAG, which noted the following:

We made extensive inquiries of officials and others as to why port companies and electricity generators were not able to seek requiring authority status [⁷⁸] and could see no principal reason for the exclusion. Like airports, sea port companies are fixed assets generally of significant value to regional and national communities. Airports and seaports both have specific requirements to expand or protect their essential infrastructure (ITAG, 2010).

⁷³ De novo is where the whole case is re-litigated from the beginning. Local Government New Zealand Regional Sector Group (2011) argues that if de novo Environment Court hearing were removed then parties "...have a clear incentive to engage fully and early in the plan development process. Parties know that to be effective they need to influence the decision-makers (in this case the commissioners). That means they need to be able to put on the table as early as possible their concerns and their evidence. Parties are now incentivised to seek win-win outcomes and to work constructively with each other to get a result" (p.8).

⁷⁴ To have the right to designate land a network utility operator must be 'approved' as a 'requiring authority' by the Minister for the Environment.

⁷⁵ 'Lesser interest' is defined in s.29 of the Marine and Coastal Area (Takutai Moana) Act as meaning 'an interest in reclaimed land that is less than a freehold interest and includes a lease, licence, or other right or title to occupy or use the land.'

⁷⁶ Seaport capacity is determined by more than just physical land area. Ports can expand in a variety of ways. It should not be assumed that physical expansion is the only, or even the economically preferred, option.

⁷⁷ Including ports as network utility operators may also prevent alternative uses of the land around ports being considered.

⁷⁸ "Requiring authorities have the ability to have areas of land designated for use as network utilities or large public works (see sections 166-186 of the RMA)" <http://www.mfe.govt.nz/rma/central/designations/index.html>

The Commission can see the inconsistency in treating airports as ‘network utility operators’ while seaports are not. However, a more detailed analysis of this issue is needed before reaching a conclusion as changes could have implications that are outside the scope of this inquiry.

R8.4

The Government should conduct a review of whether to include port companies as network utility operators in s.166 of the RMA.

The cost and timeliness of the consent approvals process

Costly, time-consuming and overly bureaucratic regulatory procedures can reduce investment incentives and hinder efficiency.

Concerns were raised during engagement meetings about the consent process. These included:

- delays caused by objections and appeals that have little merit or that are motivated by private rather than public interests;
- the cost to local governments of preparing policy statements and plans;
- the frequency with which local governments are unable to process resource consent applications within the timeframes set out in the RMA;
- the practice of some local governments requesting additional information to ‘stop the clock’ on statutory timelines; and
- the cost and time delays associated with multiple consent hearings (ie, being heard first by council and then the Environment Court).

Box 8.2 gives an example of the cost and delays that can be associated with the RMA process with respect to bigger ships.

The reforms introduced under the *Resource Management (Simplifying and Streamlining) Amendment Act 2009* address, or will address, many of the issues raised during the inquiry: for example, the practice of using requests for additional information to ‘stop the clock’ on statutory timelines. This practice was considerably reduced by the 2009 Amendment Act, which now limits councils to only two information requests.

Similarly, the 2009 amendments (s.87C to 87I) allow parties to apply to the council to have their applications heard directly by the Environment Court, rather than have it first heard by council. This process is known as ‘direct notification’ (Ministry for the Environment, 2009). Direct notification is in addition to the Ministerial ‘call-in’ process specified in s.142 in which the Minister can have proposals of national significance directly decided by a board of inquiry or the Environment Court. Applications can also be lodged directly with the EPA, which can make recommendations to the Minister as to whether or not a matter should be deferred directly to a board of inquiry or the Environment Court.

There is some evidence that the timeliness of RMA process has improved. The RMA survey of local authorities shows that the percent of consent applications processed on time in 2010/2011 was 95%, up from under 70% in 2008/2009 (Ministry for the Environment, 2011).

Awareness of these reforms varies between submitters, with some raising problems that were largely addressed by the 2009 Amendment Act. There are a number of possible explanations as to why such issues persist. These include:

- the lag between the enactment of the legislation and it taking effect through the production of local government plans (dealt with above); and
- the opinions of individuals, which may be heavily influenced by previous experiences with the legislation.

F8.3

Recent reforms to the RMA are leading to improvements in the timeliness and cost of the consent process. The full benefits of these reforms are likely to take time to filter through into council plans, and into the perceptions of those whose opinions may have been shaped by previous experiences.

Box 8.2 The RMA and bigger ships

One area that is of particular concern to inquiry participants is the impact of the RMA on the ability of New Zealand's ports to accept 'bigger ships'. Some stakeholders believe there is an opportunity to attract bigger ships to New Zealand ports, thereby capturing the economic benefits of scale (this issue is discussed further in Chapter 9). Before this can occur ports would need to undertake dredging to accommodate the deeper drafts of bigger ships. This would require resource consent under the RMA.

Several submissions highlighted the potential cost and delays that the RMA process can present. The Port of Tauranga provided the following example.

A pertinent example is the length of time and significant costs associated with attempting to secure resource consents to increase the depth of our shipping channels. We commenced preparing the Environmental Impact Assessment in July 2007. The Commissioner's Hearing was held in March 2010 and subsequently recommended the granting of the consents. Three iwi parties appealed the Commissioner's decision and we have been in the Environment Court since April 2011, with the next hearing date set down for November 2011 four years on. Legal and expert witness costs to date have mounted to \$1,624,000, which excludes the considerable internal resource consumed by this process.

Port of Tauranga, sub. 37, p. 1

9 Investment coordination and planning

This chapter considers the role of ‘strategic planning’ or ‘government leadership’ in addressing coordination challenges that might lead to under- or over-investment in freight infrastructure. It finds that centrally directed forms of planning have high costs, and should generally be avoided in favour of lower-cost alternatives which improve the information available for decentralised decision-making. Governments need to take a coordinated approach in those areas where it performs a leadership role – such as in its own infrastructure investments and in designating transport corridors.

Key points

- Uncertain demand, multiple decision makers and the lumpy nature of investment in freight transport infrastructure create risks of under- and over-investment. Improved coordination between decision makers could promote more efficient levels of investment.
- Inquiry participants identified ‘strategic planning’ and ‘government leadership’ as solutions to a wide variety of coordination challenges, but these approaches have significant costs and risks.
- Transport firms have incentives to resolve many of the coordination challenges described in this chapter. But gaps in these incentives, combined with the fact that governments provide some freight infrastructure, points to a role for government in facilitating investment decision-making.
- Government can perform a useful role in improving coordination within the freight sector by facilitating informed discussions about strategic issues, while leaving decisions to be made on a decentralised basis in most cases. This approach also helps government infrastructure providers – particularly those receiving poor price signals – that face a difficult problem in collecting reliable market research on which to base their investment decisions.
- Directive planning, in the sense of a centralised plan imposed on independent parties, creates incentives for non-productive behaviour, including rent-seeking, tactical misrepresentation and strategic hold-up. It also tends to lock in a single approach, which can be costly if the future does not turn out as expected.
- Central government should screen road and rail investment proposals rigorously and in a coordinated way, so that the best projects are selected. Publishing cost-benefit analyses of proposals would build community confidence that the best decisions are being made.
- Case studies confirm that there are significant coordination challenges for those making investment decisions in the freight transport sector; that there are different options for addressing them; and that participants in the sector have incentives to develop these options. Governments can usefully promote this process by facilitating information sharing and discussion about different options, while ensuring that there is adequate coordination between different levels of government and between their own investment decisions when these cut across transport modes. But if the government adopts a strong leadership approach it may well choose an inferior option, based on incomplete information.

9.1 Coordination challenges

During the inquiry, participants raised different issues with a common theme; namely, resolving each issue involves coordinating different organisations within or between different parts of the freight supply chain and levels of government.

These issues included:

- coordinating road and rail investments;
- whether there are too many ports;
- whether port mergers would improve coordination;
- whether port expansion is required in the upper North Island;
- how to plan for larger container vessels; and
- how to coordinate local and central government interactions with the transport sector.

Many inquiry participants believe that government should take a lead role in resolving issues such as these, through strategic planning (Box 9.1). While participants used the term 'strategic planning' in different ways, this chapter uses it to mean a process for choosing between alternative options, typically involving large capital investments and multiple decision makers, in order to achieve a defined outcome.

Box 9.1 Participants' views advocating strategic planning

Marstel Terminals

There is a clear requirement for a more centralised planning environment for strategic port assets. The experience of the bulk liquid industry in Auckland demonstrates a clear coordination failure that would benefit from the coordination of a central government led strategic plan for port infrastructure.

sub. 30, p. 7

Pacifica Transport Group

The government needs to show leadership, and point the pathway forward in this industry. Leaving it to market forces is irresponsible, and exposes our exporters to the prospect of an overseas hub and spoke scenario [for container shipping].

sub. 11, p. 9

Environment Southland

Strategic infrastructure planning is essential. This should be conducted at both regional and national levels and be integrated across all infrastructures...

Efficiency isn't the problem it is the lack of strategic leadership and strategic investment that are the problem.

sub. 4, p. 6,7

Council of Trade Unions

The NZCTU strongly supports a move to centralised planning mechanisms to develop and implement a national transport strategy, with a representative structure encompassing employers, unions, exporters/importers, domestic transport stakeholders and government.

sub. 14, p. 27

Ports of Auckland Limited

...under any reasonable assessment of demand and supply, by 2040 there will be insufficient combined capacity at POAL and POT, with all planned expansions, to meet the upper North Island's freight needs. At this point it is likely that further development will be required in Northport at Whangarei. POAL believes this evidence supports the case for the Productivity Commission to recommend the need for an integrated approach to the provision of key port and port access infrastructure required to help efficiently service potential growth and deliver the desired higher productivity performance the Commission seeks.

sub. DR104, p. 15

New Zealand Chambers of Commerce

In particular, we wish to emphasise our support for development of an NZ Inc approach designed to enable coordinated future investments in port infrastructure (including supporting road and rail transport infrastructure requirements) and the potential benefits from a more collaborative and strategic approach to port operation and investment.

sub. DR64, p. 13

The chapter considers how government can use strategic planning to improve coordination within the freight transport sector. Section 9.2 describes the government's overall transport planning framework. This illustrates that there already is a sophisticated planning framework, aimed at improving coordination between different forms of land transport and between levels of government. This framework could, however, be given effect in different ways. At one extreme, the government could provide loose guidance about a narrow set of transport issues. At the other, it could direct investment and other decisions across significant parts of the transport sector. To consider which approach is likely to be more fruitful, section 9.3 identifies the potential sources of coordination challenges – defined as situations that could lead to missed opportunities for cooperative investment behaviour to create better overall outcomes – that underpin issues such as those listed above. It argues that normal commercial processes are likely to efficiently resolve some, but not all, of these coordination challenges.

How, then, can government best assist in improving coordination? Section 9.4 compares different approaches, with varying degrees of government direction. It argues that a relatively light-handed approach is likely to be most effective in generating and harnessing the information required for effective decisions.

The chapter draws on examples from each of the six issues outlined above. Section 9.5 presents the Commission's perspective on each of these issues as a set of six case studies.

9.2 What transport planning does government do?

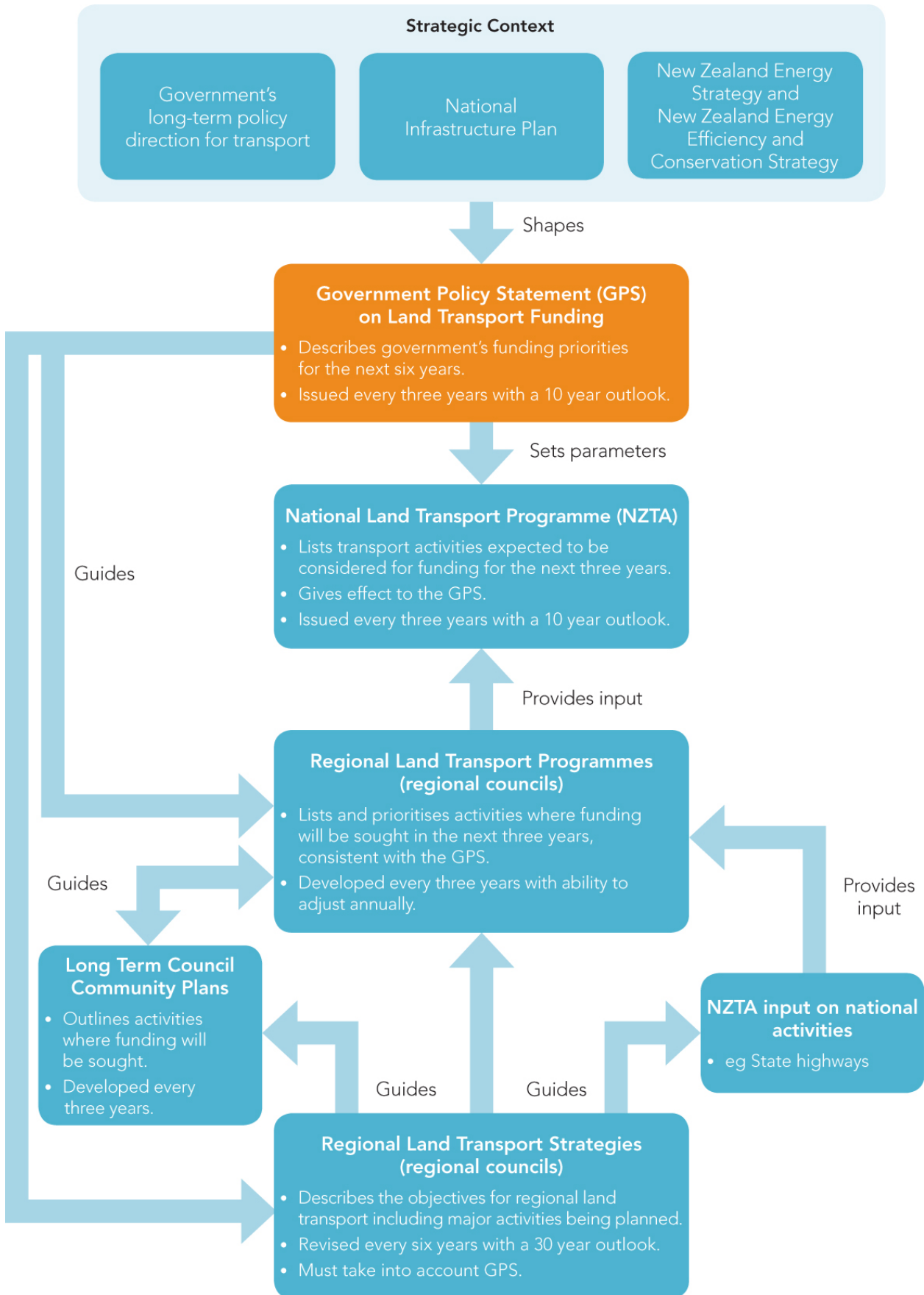
This section describes the current approach to coordinating transport planning across central government transport agencies.

The Government Policy Statement on land transport funding

The government's planning framework covers different forms of land transport, and is integrated with the statutory transport planning responsibilities of local government. Priorities for expenditure from the National Land Transport Fund over the next 10 years are set out in the Government Policy Statement on Land Transport Funding (GPS) (see Figure 9.1). This is developed within a broad context set by the government's long-term policy direction for transport; the National Infrastructure Plan; and the New Zealand Energy Strategy and New Zealand Energy Efficiency and Conservation Strategy. The GPS sets priorities for the National Land Transport Programme, the development of which is informed by inputs from the strategies and programmes of regional councils.⁷⁹

⁷⁹ Territorial authorities are responsible for local roads within their territories, and contribute 50% of the funds for local road projects.

Figure 9.1 The government’s overall transport planning framework



Source: New Zealand Government (2011); Productivity Commission

Integrated planning, both between land transport modes and between transport and land use planning, is a focus of the GPS:

Integrated planning is important to ensuring that decisions about land use, transport and urban design contribute to the achievement of the government's goals for transport and energy efficiency. To achieve integration, transport strategies and packages of activities should be developed alongside, and be clearly connected to, land use strategies such as spatial plans and implementation plans. In particular, land use and transport planning processes should ensure:

- opportunities are created for better integration within and between different modes of transport;
- the transport needs of future growth are considered in planning and developing the transport system;
- existing and future transport corridors are safeguarded from other development;
- new commercial and residential developments meet the cost of their infrastructural impact on the wider transport network; and
- urban planning principles are applied.

New Zealand Government (2011, p.10)

Roles and responsibilities

The New Zealand government transport sector is overseen by the Minister of Transport, and includes five Crown agencies, three state-owned enterprises and one Crown-established trust (Ministry of Transport, 2011d). The Ministry of Transport is responsible for considering issues that cut across transport modes. For example, a decision to expand a port could have implications for the road and rail networks linked to that port, and expansion of the rail network might affect coastal shipping.

The New Zealand Transport Agency (NZTA) plans and invests in land transport networks. It considers issues that cut across transport modes, and identifies integrated planning as a key way to meet the requirements of the Land Transport Management Act 2003⁸⁰ and contribute to national growth and productivity. Its website (NZTA, 2011b) explains its approach to integrated planning, provides an integrated planning toolkit and policy planning manual, and describes the role of regional councils in encouraging integrated planning.

Involving the private sector

An approach to planning that involves private freight transport providers requires either their voluntary participation or government regulation. There are examples of both approaches. The consultation requirements of the Airport Authorities Act 1966, which requires airports to discuss any plans for significant investments with their airline customers, is an example of regulatory intervention.

The Upper North Island Freight Plan coordinated by NZTA, which is discussed in section 9.4, is an example of voluntary participation. The National Infrastructure Plan is a further example. It is comprehensive, in that it describes infrastructure (including transport infrastructure) regardless of ownership, but is not directive.

The Plan is directional but not directive... It sets a clear course for the future so that infrastructure providers from all sectors have a common understanding of national level expectations and policy settings.

National Infrastructure Unit (2011, p.4)

Local Government New Zealand would prefer a more directive approach:

The box titled 'Government's long-term policy direction for transport' in Figure 9.1 [above] has been left conspicuously empty since the revocation of the New Zealand Transport Strategy 2008. Its replacement document, Connecting New Zealand, has only a ten-year focus and represents little more than an attempt to justify the government's previously announced programme of committed capital expenditure over the next decade...

⁸⁰ In June 2011, the Minister of Transport announced proposed changes to the Land Transport Management Act to enable it to be made simpler, more streamlined and less prescriptive. It is expected amending legislation will be introduced to Parliament in early 2012 (Ministry of Transport, 2011c).

The National Infrastructure Plan, while alluding to issues expected to arise over the next 40 years, is self-admittedly not directive and offers little frame of reference for coordinating the disparate activities of multiple stakeholders. It is anticipated that future iterations of this document may provide a more detailed frame of reference for making investment decisions.

The New Zealand Energy Strategy and New Zealand Energy Efficiency and Conservation Strategy provide little long-term thinking besides additional justifying further resource exploitation to continue satisfying our current patterns of demand...

While the local government sector is required to take a long-term perspective (statutorily required Regional Land Transport Strategies must cover a 40-year time period), the government does not require a similar level of due diligence when making its own decisions.

Local Government New Zealand, sub. DR77, p. 6

The remainder of this chapter considers the relative merits of directive versus directional approaches to strategic planning in the international freight transport services sector. It points out that these approaches are at different ends of a spectrum that is populated by a large number of intermediate models. It discusses the costs, benefits and risks of these different approaches and argues that in most instances less directive approaches have significant advantages. That said, there are situations – particularly in cases where the government is responsible for infrastructure that is critical within the transport supply chain – in which the government should signal its intentions clearly.

The next section describes the types of coordination challenges in the sector that strategic planning could address.

9.3 What coordination challenges could strategic planning address?

The Commission has developed a typology of six coordination challenges that reflects the scope of potential problems identified by inquiry participants.

The investors' dilemma

In important parts of the freight supply chain, a small number of suppliers operate infrastructure that is 'lumpy'. Investment decisions – such as whether to build a new berth or install a crane at a port or to extend a runway at an airport – involve large, discrete increases in capacity. Kotahi suggested that this can result in prolonged mis-matches between capacity and demand:

Left to individual infrastructure providers over time market forces may deliver an efficient network of ports and domestic transport infrastructure that would support economies of scale but the questions remain: how long would it take and how many poor investments would be made in the process?

Two likely scenarios:

- 1) No one invests due to the magnitude of costs and lack of utilisation certainty; or
- 2) Too many invest and assets are underutilised.

Kotahi, sub 29, p. 2

Box 9.2 provides a simplified illustration of how under-investment might occur in a situation in which two organisations separately consider an infrastructure investment. The investment draws on the logic of the prisoners' dilemma, in which two players in a game would benefit from cooperation, yet their inability to communicate and reach a binding agreement means they make individually-best choices that miss an opportunity for a better cooperative outcome.

Box 9.2 The infrastructure game (described in terms of two competing ports)

Rules of the game:

- An increase in customer freight demand cannot be met without a corresponding increase in the supply of port services. Port capacity comes in lumps, and investment in one whole unit is required

to meet the demand.

- Two competing ports must choose to invest or not invest. Each port seeks to maximise the value of its business. They must make their decision and commit to it before learning the other's decision.
- If one port invests, then the outcome is ideal for both ports. Both the investing and non-investing port earns a satisfactory return on its total investment and customer demand is also satisfied.
- If neither invests, then a worthwhile investment opportunity has been missed. Both ports continue to operate profitably; however, customer demand cannot be fulfilled.
- If both ports invest, then the purchased assets will be underutilised. Neither port will earn a satisfactory return on their investment. Customer demand is met, but over time they may face higher charges as the ports try to recoup their over-investment.

A likely outcome of this simplified example is that neither port will invest, in order to avoid the costs associated with over-investment. This outcome is non-optimal for both the ports concerned and their customers.

Real world situations in the transport sector, however, differ significantly from this simplified example.

- Infrastructure providers may have to take into account other objectives as well as maximising the value of their businesses.
- Large investment decisions are typically made in a series of small steps (such as public announcements, feasibility studies, resource consents and raising capital). Competitors can observe many of these steps, contrary to the assumption in box 9.1 that there is no communication about investment intentions.
- Project construction can be staged, allowing later stages to be delayed or abandoned if necessary.

Some apparent mis-matching of incremental capacity and demand may well happen when investment involves large increments in demand relative to the size of the market. For example, it will often make sense to install capacity ahead of demand, when the latter grows incrementally and capacity has to be added in large blocks. Provided that infrastructure providers bear the consequences of their decisions, commercial pressures provide incentives for investors to time additions to capacity efficiently.

Countervailing power

The Council of Trade Unions suggested that strategic coordination of the port sector under government auspices would:

...serve to countervail the ability of Maersk and similar outside parties to dictate outcomes to the New Zealand community simply on the basis of their market power.

New Zealand Council of Trade Unions, sub. 14, p. 27

The CTU proposed that there be a 'national planned strategy', to increase the countervailing power of New Zealand interests, through:

...a national authority with a mandate to maintain oversight over investment and access arrangements in rail, road, coastal shipping, ports and airports, to formulate a national strategy for locating logistical hubs, and to regulate where appropriate to secure coordination across transport modes and locations.

New Zealand Council of Trade Unions, sub. 14, p. 27

The case for having a strategy for increasing ports' countervailing power rests on the assumption that there is limited competition between shipping lines, and that this gives them excessive bargaining power in their negotiations with ports. The analysis in Chapters 4 and 11, however, does not provide strong support for this assumption.

Moreover, it would not be easy for a national authority to increase ports' bargaining power. For example, a national authority would need to set and enforce minimum port prices. Otherwise, individual ports might undercut their competitors. Competition would continue in the political arena – as vested interests attempted to influence the national authority's decisions over price setting, investment and access arrangements. This different form of competition might not necessarily improve ports' bargaining position. And ports unable to compete on price might instead compete more strongly on turnaround times or the times of day at which they are willing to accept ships.⁸¹

Resilience

Supply chains such as those involved in transporting freight are as strong as their weakest link. Shippers and consumers are exposed to the risk of interrupted service if an essential link in the supply chain fails. The Employers and Manufacturers' Association pointed out that:

It is also critical that New Zealand not be totally reliant on a single port for imports or exports as part of risk management for the country's trade movement.

Employers' and Manufacturers' Association, sub. 7

Duplicating infrastructure is one way to improve resilience, but the benefits from infrastructure choice need to be balanced against the costs of having under-utilised capacity and forgoing economies of scale.

PrimePort Timaru and CentrePort questioned whether sufficient attention is being given to resilience of the international freight transport supply chain in New Zealand:

...current strategies are reducing resilience. In a country that is prone to natural disaster, and the practical constraints of being too long with difficult terrain, resilience should be an important factor in any planning, but it is not recognised by a purely market led approach.

PrimePort Timaru, sub. DR68, p. 2

In the last year or so it has been demonstrated how easily NZ's lifeline to the world could have been severely tested. We could easily have seen our three largest import/export ports closed or severely disrupted due to earthquakes, vessel groundings or industrial action.

CentrePort Limited, sub. DR94, p. 4

Freight providers have incentives to build resilient supply chains, to avoid losing revenue when there is a disruption. They may not, however, bear the full costs of disruptions. For example, port owners may not have to compensate their customers for their losses when port services are interrupted. (Although if a port develops a reputation for unreliability, port owners will bear at least some of these costs in the long term, as their customers seek out alternatives.) To the extent that costs from supply interruptions are not borne by infrastructure owners, markets may provide less than optimal security of supply.

While this might suggest a role for government involvement, improving on market outcomes is challenging. The information required to assess optimal levels of resilience is difficult to acquire. And the government may face pressures that may distort its decisions. For example, the community may blame governments for being wasteful if they build spare capacity to cope with a risk that never happens, and for being short-sighted if they fail to prepare for a supply interruption that does happen. Faced with this dilemma, governments will be incentivised to over-invest in resilience, to avoid being criticised for failing to protect the community against risk.

Rationalisation

The commercial viability of transport infrastructure assets may change in response to variations in demand patterns, costs or technology. The area where this issue has been raised most frequently during this inquiry is in the case of ports (see case study 3 in section 9.5), where some argue that reducing the number of ports or their activities (through closures or mergers) could improve performance.

Ports of Auckland submitted that:

⁸¹ Competition, when constrained in one arena (eg, price), tends to shift to other arenas (eg, quality) (D'Aveni, 1994; Moore, 1986).

Rationalisation [reducing the number of ports, or the number of activities undertaken at specific ports], consolidation [port mergers] or other moves to strengthen collaboration between logistics players in a transparent form could ensure the supply chain is optimised more efficiently and sustainably, avoid duplication of investment and ensure the most efficient timing and location of investment.

Ports of Auckland, sub. 50, p. 17

There have been two attempted mergers between Ports of Auckland Limited (POAL) and Port of Tauranga Limited (POTL), and one attempted merger between Port of Otago and Lyttelton Port Company in the past decade. The New Zealand Shippers' Council noted that:

...port merger discussions have been happening for some time in NZ but there has always been an insurmountable obstacle that defeats any arrangement.

New Zealand Shippers' Council, sub. 43, p. 15

Advantages of mergers could include savings in capital expenditure, increased countervailing power in dealing with shipping lines, and other cost savings (see case study 4 in section 9.6). The trend towards bigger ships could strengthen the case for a merger (see case study 6). The New Zealand Shippers' Council (2010) and Kotahi (sub. 25) anticipate that larger container vessels will service a limited number of New Zealand 'hub' ports, supported by the enhanced use of rail and through smaller vessels providing 'spoke' connections from regional ports. They argue that the benefits from this proposal could be brought forward through rationalising ports into such a port hierarchy.

Pressures for rationalisation are common, but have a lower public profile in other markets where the assets concerned are smaller and there is less government ownership. Market processes generate information about the optimal configuration of sectors and generate pressures to bring it about through, for example, building new facilities or closing redundant ones, and mergers and acquisitions. If mergers and acquisitions through normal commercial processes are not permitted, however, adjustment is constrained. In theory, a centrally-driven strategic planning process with the power to choose which port should be rationalised could lead to a better outcome, but only if the process generates better information about optimal sector configuration. It will be argued below that this is unlikely to happen.

A further complication is that local political pressures to keep a port open, perhaps in order to encourage regional development, are likely to act as a constraint on rationalisation. If it is such pressures that are constraining rationalisation, then the coordination challenge largely reduces to whether a government-led strategic planning process would be effective in overcoming local political constraints.

Commitment and hold-up

Chapter 2 described how commitment and hold-up failures can lead to under-investment.

Common ownership, through 'vertical integration', is one way to deal with these issues. For example, the primary role of the Midland Line railway is to transport coal from the West Coast mines operated by Solid Energy to Port Lyttelton. Solid Energy attempted to vertically integrate through purchase of this railway in 2002, as did the Lyttelton Port Company in 1993.

Another approach is contracting between the parties in order to share the gains and risks between them. Each party needs to be confident in the commercial longevity of the other party, given the long-term nature of the risks.

Chicken and egg

A 'chicken and egg' coordination challenge may occur when a potential user of transport services is unwilling to invest in a new production process until it is certain that freight services are in place, while the transport provider will not invest until it is certain that there is sufficient demand to justify the investment. Environment Southland describes an example:⁸²

⁸² Similar issues were raised by Christchurch International Airport (sub. 39) and Palmerston North City Council (sub. 21).

Airfreight dependent horticulture and manufacturing in particular needs to be assured of certainty of access to export markets for years into the future before an investment decision can be made... This is the classic infrastructure issue; without the necessary infrastructure there can be no businesses and without the businesses there is no demand for the infrastructure.

Environment Southland, sub. 4, p. 7

This coordination challenge boils down to identifying and assigning risk. There are at least four approaches to managing this challenge.

- The potential users can invest in the required freight infrastructure themselves (eg, via a producer-owned cooperative).
- An investor with deep pockets and the capacity to take on risk may attempt a 'build it and they will come' approach. However, government-funded projects focused on supply – rather than demand – have a poor record around the world. Transport examples in New Zealand might include the overseas passenger terminal in Wellington, the railway station in Christchurch, and some regional airports.
- An intermediary (eg, a product wholesaler) may contract with both potential producers and freight transport suppliers.
- It may be possible to reduce the scale of the challenge by dividing investments on both sides of the market into smaller parcels. For example, producers can start by producing only those products that can be economically freighted using currently available infrastructure, slowly building production to the point where demand for additional freight services is demonstrable, thus attracting supply.

Implications for strategic planning by government

The examples of coordination challenges described in this section highlight that transport firms have incentives to resolve many of these issues, in order to improve their own performance. The examples also illustrate that there are usually a number of ways to address coordination challenges, and that commercial pressures usually encourage firms to look for the best solutions. However, there may be gaps in these incentives and this, combined with the fact that governments are significant providers of freight infrastructure, points to a role for government in facilitating investment decision-making. The next section assesses some ways in which governments could undertake this role.

9.4 What models exist for strategic planning?

'Strategic planning' is a generic term that encompasses a spectrum of alternatives. The models proposed by submitters fall into four broad approaches, ranked in Table 9.1 in order of the extent to which they involve central, directive decision-making. Each model aims to supplement the information that is provided by market processes. Criteria for comparing these approaches include whether they provide better information about options than would market processes, and whether they enhance or distort incentives for efficient project selection.

Table 9.1 Four broad approaches to planning

Planning approach	Explanation
1 Market driven	Encourages a diversity of approaches. Does not preclude information sharing or leadership, but recognises that individual parties will only use those approaches if they believe they will gain private benefits.
2 Information sharing	Encourages mechanisms for the creation and sharing of reliable information to inform individual decision-making. Recognising that incomplete information is available about the intentions and plans of others, better individual decisions might be made if such information were available and, importantly, could be relied on.
3 Leadership	A large or influential participant can encourage a particular outcome through making a large commitment to a particular plan.
4 Directive	A decision-maker with sufficient authority mandates a single, 'best' approach.

Market-driven models

In this approach, single parties (and sometimes coalitions) commit resources based on their (perhaps widely divergent) views of the future. Not all of these views will turn out to be correct, and some decisions will turn out, with the benefit of hindsight, to have been incorrect. However, market-driven models encourage a diversity of approaches to meet anticipated needs.

Individual entities participate in some form of cooperative planning in this model when it is in their interests to do so, perhaps to address a coordination challenge of the types discussed in the previous section. Table 9.2 outlines two market-driven models of strategic planning.

Table 9.2 Market-driven planning models

Model	Features	Participant support ⁸³
1a Commercially-driven organisations	Institutions are improved to make them more responsive to market signals; eg, by reducing the influence of non-commercial objectives on decision making	Port of Tauranga (sub. 37)
1b Current institutional arrangements	Decisions by individual parties (according to their commercial and non-commercial objectives) operating within current institutional arrangements	Port of Napier (sub. 10) Ministry of Transport (sub. 46)

Market-driven models work best when each organisation has strong incentives to make informed decisions based on an appropriate balance between risk and potential reward, and to remain adaptable in the face of inevitable changes to the information on which those decisions were based.

Information-sharing models

Table 9.3 outlines two models of strategic planning based on information sharing.

Table 9.3 Planning models based on information sharing

Model	Features	Participant support
2a Facilitated discussion	Central government brings together relevant stakeholders and leads them through a discussion process towards the development of a common view of the future and voluntarily agreed plans for coordinated actions.	IPENZ (sub. 25)
2b Information provision	Central government improves the collection and visibility of information via, for example, mandatory national trade data collection, national demand forecasting and scenario analysis, and publishing their own plans.	Auckland Council (sub. 53)

Planning models based on information sharing, robust discussion and relationship building – but with no ability to bind the participants to particular outcomes – have the advantage that they do not create strong incentives for the costly behaviours that can undermine the efficiency of directive planning models, which will be discussed below. In particular, because the limited purpose of these models does not extend to decision-making, they do not create strong incentives for participants to use the process to provide tactical misinformation (withholding or misrepresenting privately held information) or otherwise use the process to influence decisions in their favour.

⁸³ This column (in this and subsequent tables) is not exhaustive; rather it is intended to demonstrate the variety of models suggested by participants. Participants have been assigned to what appears to be the closest applicable model based on statements made in submissions.

Inquiry participants pointed out that government organisations involved in infrastructure supply run the constant risk of being supply-led rather than demand-led, and need to be vigilant about this possibility:

To ensure our work is relevant to ... our customers, the NZTA's focus is to better understand freight owners' and transport operators' needs in order to improve the efficiency of their business.

New Zealand Transport Agency, sub. 22, p. 4

Facilitated discussions

Facilitated discussions, such as the Upper North Island Freight Plan (Box 9.3) facilitated by the New Zealand Transport Agency, are a way to collect relevant research information.

Box 9.3 Development of an Upper North Island Freight Plan

The Upper North Island has some of New Zealand's highest values and volumes of freight movements. Short- to long-term improvements of freight across the Northland, Auckland, Waikato and Bay of Plenty regions will benefit the whole economy and inform how we can make more of a difference across the country. The plan will be focused primarily on the Upper North Island's strategic freight network. The plan will be developed with regard to the freight work already completed by the regions and the work under way to develop the Auckland Spatial Plan and Regional Land Transport Strategies. Its focus, however, will take a broader view.

Importantly, the development of the plan will have direct input from key private and public sector parties, including regional and local authorities, KiwiRail, NZTA, the Ministry of Transport, Port Companies, major freight owners (shippers) and freight transport and logistics operators. While the network plan will not bind the parties involved, it will provide a basis for greater alignment and integration of plans among private and public decision makers. The plan will provide key decision makers with a common understanding of private and public sector intentions.

Source: Upper North Island Freight Network Plan Proposal (draft dated 3 May 2011).

NZTA is considering extending its use of the facilitated discussion model:

The NZTA has been encouraged by our testing of this approach in the upper North Island. We believe there is value in applying a roundtable approach elsewhere and will look at [whether] something similar could be developed in the lower North Island and South Island.

New Zealand Transport Agency, sub. DR100, p. 7

Facilitated discussion models create a forum in which investment intentions can be announced and discussed. As the Upper North Island Freight Plan indicates, this can provide a basis for common understanding of issues, leading to better alignment and integration of investment intentions, but without leading to binding decisions. This can encourage worthwhile rationalisation by increasing the transparency around poorly performing enterprises; and reduce commitment and hold-up problems by providing a forum in which intentions can be announced.

Compared with a process that leads directly to decisions, it provides smaller rewards for rent-seeking behaviour (lobbying to obtain a benefit rather than adding value through creating a benefit) and for providing tactical misinformation. Rather, if the process works well, participants recognise the benefits of constructive engagement, and that the process will fail – to their disadvantage – if they provide misinformation.

F9.1

'Facilitated discussions' can improve decentralised decision making through promoting relationship building and information sharing, leading to improved coordination.

Information provision

Information provision models complement facilitated discussion models by including the creation, sharing and discussion of background research and alternative industry scenarios. For example, the Electricity Commission (now superseded by the Electricity Authority) produced a Statement of Opportunities which set out a set of possible futures for electricity supply and demand, "incorporating key information to enable the

identification of potential opportunities for efficient management of the grid, including investment in transmission upgrades and transmission alternatives” (Electricity Commission, 2010). The Statement included a range of likely future scenarios for electricity supply and demand – rather than a single planning scenario – “to facilitate informed decision-making about new investment in transmission and transmission alternatives”.

Local Government New Zealand supported the use of an information provision approach. It:

...advocates inserting more transparency into the transport debate by making long-term investment assumptions more explicit. This should take the form of alternative future scenarios and should be informative rather than directive. Stakeholders should be able to provide input to these assumptions to allow them to be continuously improved over time. This solution will ensure multiple interdependent decision makers across government, local government and the private sector are at least aware of the wider context that decisions affecting the wider supply chain have been made within, even if they are not in agreement.

The Statement of Opportunities model ... should be investigated for its potential application to the transport sector. Local Government New Zealand believes such an intervention will have a significant influence on ensuring ongoing efficiency improvements in the delivery of international freight transport services.

Local Government New Zealand, sub. DR77, p. 7

While this approach could be applied to the freight sector; design issues – such as who would participate, and the status of published scenarios – would need to be resolved.

The National Infrastructure Plan (National Infrastructure Unit, 2011) could also be seen as fitting an information provision model, as it provides information about intentions without binding the parties described in the plan.

Information often has the qualities of a public good. Markets tend to under-produce information, creating a role for government in its production and dissemination (Romer, 1990; Blakeley, Lewis and Mills, 2005). Government initiatives to improve background information provision about freight movements and demand are discussed in section 13.4.

Leadership models

Table 9.4 describes two types of leadership planning models.

Table 9.4 Leadership planning models

Model	Features	Participant support
3a Leadership through coordination of central government infrastructure investments	Central government decides on a plan. It directs its own agencies to follow the prescriptions of the plan. Independent parties (including local government) delay investments until the central government articulates its plan, and then choose their (privately) optimal response.	Federated Farmers (sub. 27) New Zealand Chambers of Commerce (sub. DR64) Tainui Group Holdings Limited (sub. DR62)
3b Leadership through coordinated shipper demand	“In the absence of a coordinated supply chain investment strategy from central government, direction coordination will require a strong coordinated demand signal as a catalyst to collaboration and investment. [Kotahi] is intended to provide a vehicle to facilitate matching of demand and investment.”	Kotahi (sub. 29, p. 15)

These models require the commitment of a powerful supplier or purchaser, with sufficient influence to shape the industry. The government is most likely to perform this role, but it could come from the private sector.

The Kotahi model of leadership through coordinated purchase of freight services is a possible example of a private sector leadership model. This model aims in part to encourage ports, shipping lines and others to commit to investment in upgraded infrastructure. However, it is unclear to the Commission what level of commitment of resources and demand Kotahi members intend to make. Without such a commitment, it may well be that Kotahi fails to provide the strategic leadership envisaged by its proponents. Other issues relating to the Kotahi proposal are discussed in Chapters 5, 10 and 11.

Government leadership models are more common. The government has considerable decision-making authority about investment in domestic transport – particularly for rail and state highways.

The requirements for successful leadership models are difficult to achieve:

- The leader's commitment must be credible – usually it takes irreversible investment by the leader before others are willing to commit their own resources to follower strategies.
- Irreversibility reduces flexibility, closing off options that may become superior, particularly when technology and supply and demand conditions change.
- A leader needs a comparative advantage in the information that allows it to plan, relative to the information available to others in the industry. The coordinated implementation of a poor plan may lead to a worse outcome than no plan at all.

Disadvantages of leadership models

The leader's decisions create winners and losers. Those affected have incentives to influence decisions, even if this involves devoting resources to lobbying and providing tactical misinformation. For example, users have an incentive to overstate the demand for infrastructure to encourage over-building of capacity, in the hope that this will then be made available at distress prices. These behaviours reduce the quality of information available for planning, and increase the risk of adopting a less-than-optimal plan.

A related risk is that if the government states that it will take on a leadership role, pressures will develop for it to take on commercial risks from the private sector. For example, the government could come under pressure to provide a pivotal piece of infrastructure (preferably with excess capacity built in) that may not generate a commercially attractive return. 'Certainty' may be attractive to private investors:

Certainty of freight service is essential to investment in export based industries. Airfreight dependent Horticulture and manufacturing in particular needs to be assured of certainty of access to export markets for years into the future before an investment decision can be made... This is where political leadership, public investment and strategic vision come into play.

Environment Southland, sub. 4, p. 6

...create an environment which provides certainty for the parties willing to make the investment.

Marstel Terminals, sub. 30, p. 7

But certainty is not costless for those who provide it, and if the government takes on risk this is ultimately borne by the community.

The challenge for government: being an effective leader

Central government will inevitably be a leader to some extent, and so the question it faces is how to provide leadership in the most effective way. The Commission's analysis suggests that central government can take a lead where:

- action relies on powers only available to government (eg, transport corridors, regulatory policy); or
- it can do so at low cost to itself, while creating benefits for others (eg, facilitated discussions, transparent decision-making).

Even when it takes on a leadership role, government should be responsive to new information about emerging demand. Responsiveness is an important contributor to dynamic efficiency. This stance involves –

to the extent feasible – keeping options open until strong evidence of demand emerges, rather than investing in anticipation of demand.

F9.2

While there are pressures on the government to provide stronger leadership in the transport sector, this approach involves significant risks. Governments can take a lead where:

- action relies on powers only available to government (eg, transport corridors, regulatory policy); or
- it can do so at low cost to itself, while creating benefits for others (eg, facilitated discussions, transparent decision-making).

Transport corridor designation: a special case

Given the risks involved when the government adopts a strong leadership role, it might initially seem surprising that central and local governments adopt a leadership role through designating future transport corridors, as part of their land use planning responsibilities.

Government leadership is needed in this situation, because only governments have the authority to set aside land in this way, and because corridor designation decisions need to be consistent with other land use planning decisions (such as land zoning and the location of public hospitals and schools) for which governments are responsible. Choices about transport corridors should also take into account interdependencies between different transport modes. Designating transport corridors reduces the costs of those considering complementary investments, who might otherwise be discouraged from investing.

Setting aside land for transport corridors should, however, be used judiciously. While it opens up transport options, it closes off alternative uses of the affected land. Those costs may represent an absolute loss should the transport corridor not be developed. The New Zealand Chambers of Commerce note:

...the utilisation of designations is not necessarily a “low cost” process; e.g. for establishing freight designated routes that by-pass small, but busy provincial towns. In these situations, a land acquisition programme is generally required, which can take many years to complete and are likely to encounter opposition from affected local communities concerned about the project’s impact.

New Zealand Chambers of Commerce, sub. DR64, p. 13

F9.3

Governments need to perform a leadership role in designating transport corridors, and coordinate these decisions with their own infrastructure investment planning. Governments should be mindful of the risks of these decisions, and that poor decisions may have unintended consequences.

Directive planning models

Directive planning models involve the government developing, or leading the development of, a plan for all, or a significant part of, the transport sector and using its coercive power to require the plan to be carried out. Table 9.5 describes four variants of this approach.

Table 9.4 Directive planning models

Model	Features	Participant support
4a Central planning	Central government decides on a plan. It directs its own agencies, and regulates independent parties, to follow the prescriptions of the plan.	Not supported
4b Delegated central planning	Central government forms a group of relevant stakeholders, and delegates to them the formulation of a central plan that is binding on all parties.	Council of Trade Unions (sub. 14)

	Model	Features	Participant support
4c	Central government direction of central and local government investment	Central government decides on a plan. It directs its own agencies and local government to follow the prescriptions of the plan.	Raised in an engagement meeting
4d	Central and local government direction	Central government, in consultation with local government, decides on a plan. It directs its own agencies and local government to follow the prescriptions of the plan.	Waikato Regional Council (sub. 5)

The New Zealand Ports Authority was an example of central planning of transport infrastructure (Box 9.4).

Box 9.4 An experience with central planning: the New Zealand Ports Authority

The New Zealand Ports Authority was established by the New Zealand Ports Authority Act 1968. The general function of the Authority was (s.11(1)):

- (a) To foster an efficient and integrated ports system for New Zealand:
- (b) For that purpose, to prepare, in accordance with section 12 of this Act, a plan (to be called the national ports plan) for the development of ports and harbours in New Zealand; and from time to time to review that plan.

The Authority controlled all expenditure by Auckland and Wellington ports in excess of \$250,000, with lower limits for other ports. Ports could lodge objections when another port applied to the Authority for capital expenditure. Objections were one means of port 'competition' (Memon, Milne and Selsky, 2004).

Because approval was required to purchase container cranes – the major capital item (for ports) associated with increasing containerisation in the 1970s and 80s – the Authority was in a position to plan centrally which ports would become the country's container ports. The Authority's choices, eg, that Port Chalmers would be the container port for the South Island, did not turn out to match the reality of shipper demand. The Ports Authority was abolished by the Port Companies Act 1988.

Submissions from port companies indicate no desire to return to this type of central planning:

We would not want a return to the position of the 1980's with the New Zealand Ports Authority and the non-profit Harbour Boards and the Waterfront Industry Commission. All these had high ideals ... but the complexity and variability of supply chains to each individual exporter/importer doomed them to failure. We don't want to repeat past mistakes.

Port of Napier, sub. 10, p. 11

Centralised strategic planning (NZ Ports Authority) has been tried and proven a failure.

Port of Lyttelton, sub. 20, p. 3

Directive planning models have significant weaknesses.

- They do not take advantage of the decentralised processes for generating information that are an inherent feature of markets.
- They tend to embody a single view of the future (Taneja, et al., 2010). Even the best researched and formulated plans may be derailed by unforeseen events, or turn out to have been based on incorrect assumptions. Should the expected future not arise, then significant resources may have been wasted or valuable opportunities missed.
- They provide incentives for participants to 'game' the process. Where there are big gains to be had – or losses to be avoided – through influencing those with the power to direct, affected parties are likely to

respond via tactical misinformation, rent-seeking and strategic hold-up (extracting concessions through refusing agreement).⁸⁴ The limited quality of the information undermines the ability of the planner to design the optimum plan.

- Having started out with a sub-optimal plan, any attempt to modify it in future will provide additional opportunity for these costly, unproductive behaviours. Under these circumstances, plans found to be no longer suitable may become locked in rather than flexible. At best, directive plans will tend to optimise operational efficiency at the cost of dynamic efficiency.
- Directive planning relies on the force of law and government authority to deliver outcomes, rather than on commercial incentives.

The benefits of directive plans need to be substantial to offset these high costs. While directive planning could in principle address each of the coordination challenges identified in this chapter, the decentralised and facilitative approaches identified earlier in this section have smaller risks. As Waikato Regional Council points out:

...directive planning should be avoided in favour of lower risk mechanisms such as coordinated planning by central and local government, information sharing, and 'facilitated discussion' models of cooperation to enable strategic collaborative decisions that improve productivity and efficient economic development.

Waikato Regional Council, sub. DR85, p. 7

F9.4

Directive planning, in the sense of a centralised plan imposed on independent parties, has significant disadvantages compared with decentralised, facilitative approaches to planning.

9.5 Choosing between strategic planning models

The models described in section 9.4 are points along a spectrum between decentralised market processes and central planning. While some submissions, as noted above, favour stronger central direction, this approach has significant risks. The government can help to address some of the coordination challenges identified in this chapter, and is inevitably involved in planning for the sector because of its role as provider of important transport infrastructure and some services. The government's planning for its own infrastructure investment needs to be carefully coordinated to take account of interdependencies between transport modes. (Case study 2, below, considers this in more detail.)

That said, an approach that is driven by the government, and that relies on government authority to be given effect, will have difficulty generating better quality information than would emerge from decentralised competitive processes. Competitive processes rarely look neat and tidy. Organisations often make what turn out to be the wrong investments, and even worthwhile investments are rarely made at what hindsight shows would have been the optimal time. For example, there may be periods when there is a mis-match between capacity and demand. It is easy to look back over a series of events and identify instances where cooperative behaviour, smarter decisions, or access to a key piece of information would have led to an improved outcome. It is often seen, or felt intuitively, that a 'solution' should be adopted to ensure that these 'mistakes' are not repeated. Such solutions inevitably are subject to 'hindsight bias' – the tendency people have to view past outcomes as being more predictable than they really were (Kahneman, 2011).

Hindsight bias understandably leads many to favour strategic planning over market-based outcomes. However, in an environment characterised by volatile input prices and demand, technological change, and incomplete information, centralised planning is both risky and costly. Just as the 'market' will result in imperfect plans, so will any process designed and run by people – even with the best of intentions.

⁸⁴ These problems are not confined to planning by governments.

While there are significant coordination challenges in the transport sector, increased use of centralised planning through approaches that rely on leadership and the directive powers of government are unlikely to lead to better overall outcomes than less directive approaches, which rely on information sharing through discussions facilitated by the government.

R9.1

More use should be made of ‘facilitated discussion’ models of cooperation in coordinating investment planning. These models are based on information sharing, robust discussion and relationship-building, but do not bind the participants to particular outcomes. They do not create the strong incentives for the costly behaviours that undermine directive planning models (such as tactical misinformation, rent-seeking and strategic hold-up).

9.6 Case studies of coordination issues

Case study 1: Coordinating central and local government

Poor coordination between government-controlled organisations responsible for domestic transport infrastructure may lead to inefficient investment.

Legislation places specific requirements on local government to produce a variety of planning documents on a scheduled basis. Local Government New Zealand submitted that there is a potential lack of direction from central government:

...regional councils are required to prepare Regional Land Transport Strategies under the Land Transport Management Act. These documents must set out the transport priorities for each region over a 40-year time horizon. [Central] government is yet to bind itself to making a similar commitment. With the renunciation of the New Zealand Transport Strategy 2008 there is now no common lens through which to examine long-term transport questions. The inevitable implication of this is a growing divergence between regional priorities over time. Until this gap is plugged current coordination issues, which will only get worse, not better.

Local Government New Zealand, sub. 42, p. 5

Waikato Regional Council drew attention to “the lack of coordination between economic development strategies, land use planning and transport planning and investment” (sub. DR85, p. 6).

Coordinating planning within and between central and local governments is needed at regional boundaries and where infrastructure is being provided by different levels of government within a region (eg, where state highways join local roads). The Commission is not aware of institutional impediments to such coordination.⁸⁵ Nevertheless, it is difficult to design processes that strike the right balance between lacking direction on the one hand and being overly prescriptive on the other.

Specific decisions about transport infrastructure are made under the Resource Management Act 1991. This Act and its implications for transport are discussed in section 8.4. In particular, a National Policy Statement on transport infrastructure (recommendation 8.2) may assist in dealing with the concerns raised by Local Government New Zealand.

Case study 2: Coordinating road and rail investments

Coordinated assessment of road and rail⁸⁶ projects would help government to allocate capital where it can add most value.

⁸⁵ Port of Napier (sub. DR93) notes that the quality of data available to government is an impediment to optimal coordination. Measures to encourage the provision and sharing of reliable data are discussed in various parts of this chapter and in section 13.4.

⁸⁶ Coordination with the coastal shipping network is also desirable. The relationship between government policies for road, rail and coastal shipping is explored in section 13.1.

Road and rail are partial substitutes

New Zealand's rail lines are mainly paralleled by state highways. Infrastructure investment in one mode may be substitutable for investment in the other, at least to the extent that the freight services provided by the two modes are substitutable.⁸⁷ This raises the question as to whether central government should change its institutional arrangements to coordinate more explicitly road and rail infrastructure planning.

Mackie, Baas and Manz (2006) estimate that service substitutability from road to rail is low,⁸⁸ but that in the other direction, most of the freight currently travelling by rail is contestable by road (see Chapter 13). Notwithstanding this finding, government policy has tended to focus on substituting rail for road transport (eg, Ministry of Transport, 2008a; KiwiRail, 2010a).

KiwiRail's Turnaround Plan

Many submitters⁸⁹ drew attention to the potential to improve coordination between the government's plans for infrastructure investment in road and rail.

Justifying rail and road projects on the same basis would encourage consistent project selection across transport modes. The draft inquiry report recommended a full cost benefit analysis of further government investment in KiwiRail's Turnaround Plan, comparable to the ones produced for major road projects. It also recommended a transparent process that selected the best-performing projects from rail, road and coordinated proposals, in order to encourage the efficient allocation of government capital. A significant number of submitters supported this recommendation.⁹⁰

Participants in the Upper North Island Freight Plan encouraged transparency around the expenditure of public funds:

Almost all participants were against providing public funds to any [domestic transport] mode unless the total social and economic benefits were demonstrated and that this investment did not adversely affect the operation of other modes or private sector businesses.

New Zealand Transport Agency, sub. DR100, p. 4

The Ministry of Transport, on the other hand, submitted that the confidentiality of KiwiRail's commercial affairs dictates against transparency:

... the Ministry questions how such emphasis on transparency would encourage economic efficiency in these circumstances. ... KiwiRail's strategic projects are for the Board to consider and approve or otherwise. The detailed material in the Turnaround Plan remains confidential and in the Ministry's view should remain so. This Plan was subject to extensive financial, economic and engineering due diligence conducted or commissioned by The Treasury in conjunction with the Ministry of Transport on behalf of the Crown.

Ministry of Transport, sub. DR58, p. 2

The Ministry's comment is consistent with a perspective that the government is the sole shareholder of KiwiRail. An alternative perspective – favoured by the Commission – is that the government is a proxy for the actual owners, the citizens of New Zealand, who are exposed to the consequences of the success (or otherwise) of the enterprise, and therefore have a legitimate ongoing interest in its governance. Transparency encourages accountability and, through that, more effective decision-making.

⁸⁷ The discussion about rail here (and elsewhere in this report) is on rail *freight* activities and the rail network necessary to support those activities. KiwiRail receives separate funding from central and local government for the passenger networks in Auckland and Wellington. Those arrangements are outside the scope of this inquiry.

⁸⁸ The National Freight Demand Study (Richard Paling Consulting, 2008) notes rail's modal share for many commodities is negligible: eg, concrete, aggregate, petroleum products and livestock. Rail is also unsuited to other tasks, eg, collection of milk or timber from its point of production, and delivery to retail outlets.

⁸⁹ Including PrimePort Timaru (sub. 12), Council of Trade Unions (sub. 14), Foodstuffs (NZ) Ltd (sub. 24), Port Companies of New Zealand (sub. 31) and Auckland Council (sub. 53).

⁹⁰ Including the Institute of Professional Engineers of New Zealand (sub. DR57), PrimePort Timaru (sub. DR68), Port of Napier (sub. DR93), Export New Zealand (sub. DR99, p. 2), Ports of Auckland (sub. DR104, p. 21) and the New Zealand Chambers of Commerce (sub. DR64).

KiwiRail drew attention to:

...the wider benefits to New Zealand that the government is expecting from its equity investment in KiwiRail (e.g. savings in road construction costs, road safety, reduced greenhouse gas emissions, the option value of an alternate transport system, etc.)

KiwiRail, sub. DR74, p. 3

Comparability and transparency encourage the achievement of wider benefits at the lowest social cost.⁹¹ Lowering their cost allows more benefits to be purchased, or resources to be allocated to other worthwhile purposes.

While the draft recommendation received significant support, its formulation was inaccurate. The government does not fund individual freight rail transport projects;⁹² rather, it funds KiwiRail to implement its Turnaround Plan, through a capital subsidy.⁹³ The question for government is: what are the net social returns from funding the Turnaround Plan, relative to the other options available?⁹⁴ This question is logically independent from funding decisions about individual projects, though the two will inevitably influence each other.

Responsibility for allocating capital between competing projects has been delegated to KiwiRail, which is likely to choose projects on the basis of net benefits to KiwiRail rather than use the net social benefit criterion used for road project evaluation. Applying different approaches to project evaluation, combined with limited transparency about the analysis, leads to concerns with the current arrangements.

1. The Turnaround Plan may not be the best choice available to government.
2. The subsidy to KiwiRail may be too high or too low relative to other modes, leading to investment in projects in one mode in situations where another mode offered higher net benefits.
3. Road projects assessed on net social benefit benefits may be unduly favoured relative to rail projects, which are justified on a net private benefit basis. This might occur when the net external benefits for a rail project were higher than the comparable benefits from the road project.

Separating infrastructure from operations – creating a ‘vertically separated’ model where ‘below rail’ infrastructure decisions are made on a public accounting basis and ‘above rail’ operations are decided commercially – might be one way to address these concerns. This model applied in New Zealand between 2004 and 2008, but its high transaction costs encouraged the Government to purchase Toll’s rail operations and combine them with network owner ONTRACK (Heatley and Schwass, 2011). The costs associated with a vertically separated model are likely to outweigh its benefits (Pittman, 2005).

Improved transparency remains the best option, absent a clear structural solution. Publishing cost-benefit analyses for road and rail infrastructure projects would demonstrate whether scarce resources are being allocated well, particularly if the amount of information withheld to protect commercial sensitivity was minimised.⁹⁵ Coordination with the coastal shipping network is also required. The relationship between government policies for road, rail and coastal shipping is explored in section 13.1.

⁹¹ The lowest social cost principle underlies the design of the government’s Emissions Trading Scheme (ETS) for greenhouse gases. Claims of greenhouse gas reduction benefits from equity investments in rail (or any other domestic transport mode) are only valid to the extent that the ETS under-prices the social costs of emissions. Investment justified by the double-counting of benefits will be economically inefficient.

⁹² It does provide direct funding for *passenger* rail projects, but that is outside the scope of this inquiry.

⁹³ Under current arrangements the Government is planning to provide: (a) funding (in the form of an equity injection) to cover the expected shortfall between EBITDA and planned capital expenditure between 2010/11 and 2014/15; (b) reinvestment of operating profits between 2015/16 and 2019/20; (c) a restructure of KiwiRail’s balance sheet so that future financial returns to the government are judged relative to an enterprise value of \$1.1bn, rather than the economic cost of the enterprise. Source: KiwiRail (2011a; 2011b).

⁹⁴ Other options might include: (a) closing the rail freight network; (b) closing all unprofitable parts of the network; (c) investing at a faster rate and/or to a higher level than contemplated in the Turnaround Plan.

⁹⁵ NZTA drew the attention of the Commission to the undesirability of publishing cost estimates prior to issuing competitive tenders for project work, as tender proposals might be anchored to those estimates. In these circumstances it may be worthwhile to suppress publication of those specific cost estimates until after the tender is awarded.

R9.2

The Government should:

- coordinate its assessments of road and rail projects in order to allocate capital where it can add most value; and
- seek ways to improve the transparency of decision making around road and rail infrastructure projects, including the publication of cost-benefit analyses.

Case study 3: Too many ports?

Port rationalisation is a topic of ongoing debate within the freight transport sector (Ministry of Transport, sub. DR58). Port rationalisation is an ongoing process – New Zealand today has a small fraction of the more than 100 ports that operated in the nineteenth century. Rationalisation has been driven by factors such as larger vessel sizes (making many river ports impractical), improvements in domestic transport, changing patterns of production and consumption, and economies of scale in freight handling.

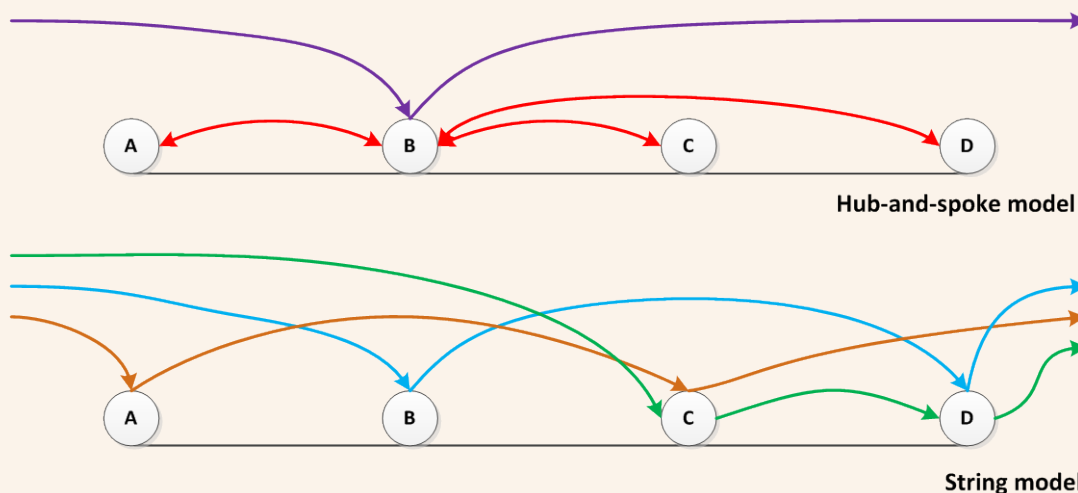
Bulk goods, such as coal and logs, are usually handled by the nearest port.⁹⁶ Unless there are significant changes in the supply or demand for these goods, or cost reductions in domestic transport, significant changes are unlikely in the existing port configuration for bulk shipping.

The appropriate number of container-handling ports is less clear, and depends in part on the configuration of the liner services that use those ports. Box 9.5 discusses two models for the configuration of container shipping services.

Box 9.5 Hubs, spokes and strings

There are many different ways to organise shipping routes to service multiple ports. Two basic types of models are depicted in Figure 9.2.

Figure 9.2 Container shipping route models



In the hub-and-spoke model, all international connections are made via a 'hub' port (B). Feeder services run along the 'spokes' to the other local ports. Consolidation of cargos at the hub port allows larger (and more cost-efficient) vessels to be used on external connections, but this is offset by the costs of double-handling all containers for ports A, C and D.

The string model involves international vessels calling at multiple local ports. In the figure, three lines each call at two ports. The number of vessel calls at each port can be matched to the number of

⁹⁶ Notwithstanding that there is existing and potential competition for bulk freight customers where port hinterlands overlap (Charles River Associates, 2002).

containers exchanged at that port (for example, two services call at ports C and D above, whereas ports A and B have one service). Vessel sizes can be matched to the number of container exchanges required to serve all of the ports in the string. There is generally little double-handling of containers, though transshipment at local ports can be an efficient way to make use of a service that connects to a different international port.

New Zealand is primarily served by string services; for example, the NZS service covers the route Auckland, Lyttelton, Wellington, Napier, Tauranga, Singapore and Port Kelang.

String services – with container ships calling at multiple New Zealand ports – are normal practice in New Zealand, given the geographic distribution of freight demand, costs of inland transport and current shipping technology. Given the mobility of international container vessels, it is likely that shipping lines would quickly reconfigure their services to a hub-and-spoke arrangement if they believed that arrangement to be more efficient. Case study 6 considers a proposal to use local investment to encourage such a reconfiguration.

F9.5

String services – with container ships calling at multiple ports – are normal practice in New Zealand, reflecting the geographic distribution of freight demand, costs of inland transport and shipping technology.

Does New Zealand have too many container ports? Some inquiry participants suggested that some smaller ports have struggled at times to secure the container volumes required to attract liner services. There would, however, be relatively few system-wide benefits from ceasing container operations at such ports, as the container volumes involved are small and would contribute little to economies of scale at larger, alternative ports. Decisions about the viability of these ports are best left to their owners. An important consideration is whether shippers are willing to pay the full costs of port services, including an adequate return on capital.

F9.6

Decisions about the viability of smaller ports are best left to their owners. An important consideration is whether shippers are willing to pay the full costs of port services, including an adequate return on capital.

Case study 4: Can port mergers overcome coordination failures?

Merging the operation of ports sometimes adds value to the merged businesses. Independent evaluation, rather than a strategic planning process, should be used to assess the public benefits and costs of proposed port mergers that might lessen competition.

A merger or other form of close cooperation could deal with some of the potential coordination failures identified in section 9.3; in particular, the investors' dilemma that might otherwise lead to under-investment.

The case of Auckland and Tauranga illustrates the potential benefits, costs and other consequences of port mergers. This case study assumes a full company merger in which the resulting entity is listed on the stock exchange, with the Bay of Plenty Regional Council and Auckland Council as the largest shareholders.⁹⁷

Recent attempts to merge Ports of Auckland and Port of Tauranga

In 2007, Ports of Auckland (POAL)'s then owner, Auckland Regional Holdings, the commercial arm of Auckland Regional Council, declined a proposal to merge the two ports. In 2009, Port of Tauranga Limited (POTL) rejected a proposal from Ports of Auckland to buy its container business. Auckland Council believes there is still potential for some form of merger:

The council has signalled to POAL the need for a long-term strategy which addresses the opportunities

⁹⁷ A variety of other commercial models are possible but are not considered here.

and implications of co-operation or alliancing arrangements with the Port of Tauranga and North Port... POAL have indicated that they do not oppose cooperation with Port of Tauranga and see some potential benefits in such cooperation for the overall supply chain. Previous merger proposals in New Zealand have demonstrated increased value for shareholders as well as supply chain efficiencies.

Auckland Council, sub. 53, p. 1

Such a merger potentially offers both efficiency benefits (generally from improved coordination) and costs (generally from reduced competition).

For a merger: improved coordination

POAL expects that a merged port would have lower capital investment costs:

Port rationalisation or other moves to strengthen collaboration in a transparent form could help to ensure the supply chain is optimised more efficiently and sustainably, avoid duplication of investment, and ensure the most efficient timing and location of investment.

Ports of Auckland, sub. 50, p. 17

A merger might have more countervailing power when negotiating with shipping lines over port charges:

In our view it may be necessary for the Commerce Commission to allow port mergers to enable greater bargaining power which would assist in addressing the bargaining power of shipping lines; however the level of competition and prices would need to be carefully monitored.

Auckland Council, sub. 53, p. 8

Other possible benefits from a merger include:

- Reducing the risk of an investors' dilemma over port dredging to support bigger ships.
- Economies of scale in governance, administration and purchasing.
- Improvements in governance for POAL resulting from multiple shareholders and a stock exchange listing (see Chapter 10), though there is no current impediment to pursuing these benefits without a merger.
- POAL might benefit from adopting POTL's multiple port-service company and multiple-union models. However, it is also possible that a merger might have the opposite effect – strengthening the bargaining power of the major unions over the merged port.
- A single inland port in South Auckland servicing both ports could improve the service for shippers; for example, the ability to forward a container to the next ship, regardless of the port at which it was berthed.
- The potential to divert ships between ports may reduce the resources devoted to supporting peak loads at both ports.

Against a merger: reduced competition

A merger could lose some of the benefits that competition can bring.

Competition between POAL and Port of Tauranga has undoubtedly provided an incentive to lift productivity at POAL, and has reduced the prices paid by shipping lines.

Ports of Auckland, sub. 50, p. 10

If a merger increased the ports' market power over their customers, it may lead to higher prices and/or lower service quality. Ports of Auckland (sub. 53) suggested that a merged port would attract some form of economic regulation under the Commerce Act to constrain potential abuse of market.

Implications for investment coordination and planning

It is possible that a merger between these two ports would require authorisation by the Commerce Commission, given that Part 3 of the Commerce Act prohibits mergers and acquisitions that substantially

lessen competition in a market. However, it allows the Commerce Commission to grant an authorisation for acquisitions that would result in a substantial lessening of competition, if there are sufficient public benefits.

Independent evaluation of costs and benefits is likely to lead to better screening of merger proposals than if such evaluation was done internally within some form of strategic planning model. Scrutiny by the Commerce Commission can prevent inappropriate mergers.

F9.7

The Commerce Commission is best placed to evaluate the public benefits relative to the detriments of proposed mergers that might result in a lessening of competition. Such mergers warrant independent evaluation as their benefits and costs are potentially very large.

Case study 5: Will another container port be needed in the upper North Island?

Auckland Council argues that additional port capacity will be needed in the long term and that the government should take a leadership role in addressing this issue.

...New Zealand will need the port capacity of both Auckland and Tauranga to handle growing freight demand. Even if both ports complete all envisaged expansion plans, and significantly improve productivity levels, by 2040 there is expected to be insufficient capacity between them to meet freight demand in the upper north island [sic], which may necessitate further development at Northport, Whangarei.

Given this situation, we wish to reinforce our support for Central Government to take a leading role in creating a more strategic approach to port operations and development in New Zealand. A planned and efficient network would reduce duplicative investment and therefore bring considerable savings to New Zealanders, as most of this infrastructure is publicly funded. Council would support an overall strategic plan for ports being developed by the public and private sector with the focus on making New Zealand internationally competitive rather than the status quo of interregional competition. The Council is not advocating for the nationalisation of ports, but would like to see a higher level of facilitation, coordination and leadership from the Government on the future of this sector.

Auckland Council, sub. DR60, p. 3

The problem: compounding demand will hit 'hard' supply constraints

Auckland Council's concern appears to be based on a report by Auckland Regional Holdings (ARH), which describes a scenario in which compounding growth in container volumes over the next 30 years will exceed the combined capacity of Ports of Auckland and Port of Tauranga. In particular it found:

- only under world class productivity levels for land and berth utilisation (which are significantly higher than the productivity levels achieved by New Zealand ports currently) could Auckland and Tauranga's planned future port capacity be sufficient to meet projected North Island container demand in 2040, assuming 5%-6% p.a. compounding growth;
- North Island container volume growth of up to 4% p.a. until 2040 could potentially be accommodated by Auckland and Tauranga (in aggregate) assuming all available container land is utilised, all planned reclamation takes place, and the ports invest in new terminal stacking operations (which would approximately double the capacity per hectare of the container terminals);
- berth length appears likely to be the greater constraining factor, rather than land capacity; and
- in the future, other ports are likely to be required to provide additional capacity for significant trade growth over the long-term, if New Zealand is to avoid an infrastructure deficit in ports e.g. Northport, which is the closest other port to Auckland (approximately 150 kilometres away).

Auckland Regional Holdings (2009a, p.23)

These projections were raised in the context of this inquiry by the New Zealand Chambers of Commerce (sub. DR64), Ports of Auckland (sub. DR104), and Auckland Council (sub. DR60).

One response: a container terminal for Northland

There is some support for immediate action to initiate developing a container terminal at Northport, which has a suitable natural deep water harbour; however, the required facilities and domestic transport links would be very costly. KiwiRail has indicated that the required rail upgrades alone would cost hundreds of millions of dollars.

The question: are the hard constraints really hard?

The timing of required capacity increases depends on the rate of growth in demand on the one hand, and the rate of growth in the supply potential from existing infrastructure on the other. ARH points out that extra capacity would not be needed if the existing ports achieved “world class productivity levels for land and berth utilisation”, which presumably are the best that can be achieved in 2009. The implication is that this level of productivity will be difficult to achieve, but an alternative view is that this is a conservative forecast, given that “world class” productivity will be significantly higher than 2009 levels by 2040.

Auckland Regional Holdings offers a pertinent example of the consequences of underestimating productivity improvements over a 20-year timeframe:

Ports of Auckland’s 1989 Port Development Plan envisaged redevelopment of the eastern port by way of reclamation being required in stages from 1992 and a new second port being required in 2010. However, as a consequence of continuing productivity and efficiency improvements, the timing of port redevelopment has been extended much further out than was contemplated – reclamation was delayed until 2008 (first stage) and Ports of Auckland considers that a new port may not be required in the foreseeable future.

Auckland Regional Holdings (2009a, p.24)

Another example of productivity growth is that the amount of coastline occupied by Wellington and Auckland ports has shrunk over the past few decades, despite very large increases in the quantity of freight handled by those ports. It is unlikely that this would have been predicted 30 years ago.

ARH’s 2009 analysis would be usefully improved if a number of alternative supply productivity scenarios were explored, with the predicted 2040 capacity constraint relaxed under at least some of these scenarios.

Implications for investment coordination and planning

Big picture planning based on unreliable assumptions can lead to expensive errors. Governments should be wary of calls for significant investment today based on scenarios which will play out over multiple decades. While rigorous analysis can weed out the more unrealistic scenarios, a large degree of uncertainty is inevitable. Optimal approaches are those that delay expenditure and retain flexibility to adapt to new information. The combination of uncertainty and the large requirements for investment make a staged investment with decentralised decision-making preferable to an immediate, explicitly coordinated approach to deal with forecast port capacity limits in the upper North Island.

This case study highlights the difficulty in making long-term predictions of future supply and demand, and the consequences of making major decisions based on such decisions earlier than is needed. Future productivity gains should be taken into account in scenario planning, even if the source of these productivity gains may be unclear looking a decade or more into the future.

Case study 6: How to plan investment for bigger ships?

The issue of strategic planning has been raised in the context of preparing New Zealand ports to support container vessels with 6000-7000 TEU capacity.⁹⁸ The argument runs that without a coordinated approach to investment, ports will either under-invest in the infrastructure necessary to support bigger ships, or multiple ports will invest in the same type of infrastructure – leading to over-investment.

⁹⁸ Port dredging to support bigger container ships may also lead to cost benefits for bulk shipping, which is also constrained by limited channel draft (Ravensdown Fertiliser Co-operative Ltd, sub. 3).

There are two main schools of thought around the issue of bigger ships.

- One school believes that without strategic planning and an immediate investment push, New Zealand will fail to attract bigger ships. This, they believe, is not only a missed opportunity but also increases the risk that New Zealand container freight will be hubbed through Australian ports – thus jeopardising the reliability of international services to and from New Zealand, and adding to the transit time of exports.
- A second school views the arrival of bigger ships as inevitable but not imminent. This school believes the move to bigger ships will evolve over time and that ship sizes will increase gradually rather than in large leaps. As such, they believe the preparation for bigger ships will be an evolutionary process with markets signalling the timing and amount of investment required.

This case study considers the issue of bigger ships through the coordination lens developed in the earlier part of this chapter. It begins by setting the scene for the discussion and then asks the following questions:

- What type of coordination challenges may exist when considering investment in readiness for bigger ships?
- Is there evidence that coordination challenges are deterring investment? If so, what would be the best approach to deal with this?
- What are the trade-offs in moving to a hub-and-spoke port configuration that would support bigger ships in the near term?
- What is the likelihood that New Zealand cargoes will be hubbed through Australian ports, and what would be the consequences for New Zealand shippers?

This case study considers coordination barriers as being separate to any regulatory barriers that may exist – for example, the Resource Management Act (discussed in Chapter 8).

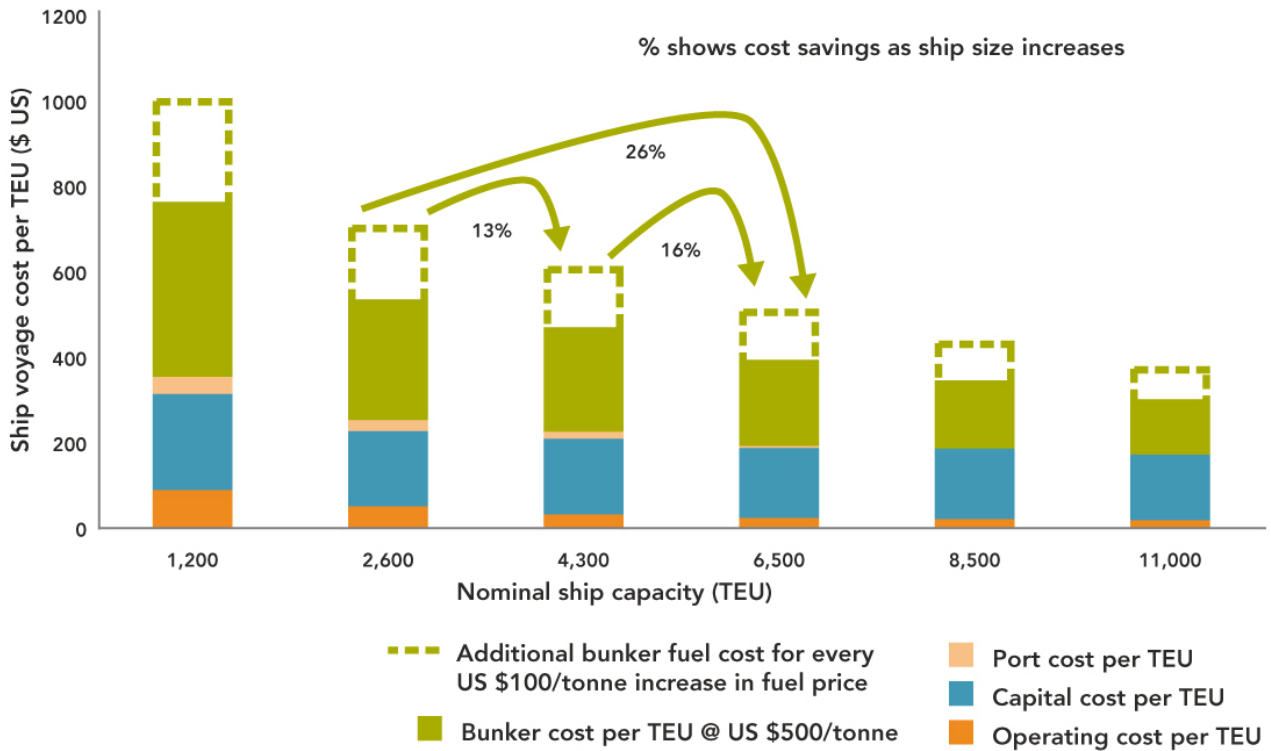
Container ships are getting bigger

The last two decades have seen a consistent trend towards larger cargo ships, resulting in the global average ship size increasing from just over 1300 TEU in 1988 to around 3000 TEU in 2011 (Sys, et al., 2008). This trend looks set to continue, with 80% of the global cargo fleet anticipated to be 4000 TEU or greater by 2030 (Rockpoint, 2009).

Bigger ships offer significant cost reductions. The New Zealand Shippers' Council estimates that the operating cost per TEU on a 6500 TEU vessel is 16% less than on a 4300 TEU vessel, and 26% less than on a 2600 TEU vessel (Figure 9.3).⁹⁹

⁹⁹ This is based on a New Zealand to Singapore round trip route of approximately 11,000 kilometres.

Figure 9.3 Cost savings from bigger ships



Source: New Zealand Shippers' Council (2010)

Notes:

The Shippers' Council analysis was based on:

1. an average sailing speed of 20 knots for all ship sizes except the 1200 TEU ship (which is assumed to sail at its maximum design speed of 18.3 knots);
2. current bunker fuel price of approx. US\$500 per tonne;
3. shipping companies owning their own ships, rather than chartering ships; and
4. average inbound ship utilisation (based on full paying containers) of 60% and outbound utilisation of 86%.

The deployment of larger container ships (up to 14,770 TEU) on the high volume east-west trade routes such as Asia-Europe-North America creates an opportunity for New Zealand to increase the size of vessels servicing its ports. This deployment is expected to create a 'cascade effect', whereby the vessels previously sailing these routes will be redeployed to other 'thinner' routes.

The New Zealand Shippers' Council has proposed that the New Zealand-South East Asia route, which is currently serviced by one weekly 4100 TEU ship service and two weekly 2700 TEU services, could be rescheduled to include one 7000 TEU and one 2700 TEU service a week (New Zealand Shippers' Council, 2010). This would allow New Zealand to take advantage of the economies of scale associated with the larger 7000 TEU vessel, albeit at the cost of a less frequent service.

No single New Zealand port currently has the container volume necessary to completely utilise a 7000 TEU vessel. Efficiency gains from larger ships can only be completely realised when the ship is carrying a relatively full load of containers.

Container volumes will need to be consolidated at hub ports fed by road, rail and coastal shipping services if bigger ships are to be attracted to New Zealand. That is, a hub-and-spoke model will be required. The scenario commonly discussed is the establishment of one hub port in the North Island and one in the South.¹⁰⁰

¹⁰⁰ Inquiry participants have expressed the view that trade volumes in New Zealand would only support two hub ports in the medium term – one in each island.

Investment in ports is required

Investment may be required in channel deepening (to accommodate the deeper draft of larger ships), berth lengthening and portside infrastructure before a 7000 TEU vessel could service New Zealand ports. Inquiry participants differ in their views on the scale and nature of this investment.

For example, the New Zealand Shippers' Council estimates that the investment required by the two port companies would total, at most, \$180 million¹⁰¹ (refer Table 9.5). This includes investment of \$100 million at Port Otago. Further highlighting the range of projections, Port Otago itself expects that investment of only \$45-65 million would be required for the port to support 7000 TEU vessels (sub. DR76, p. 1).

Table 9.5 Estimated port investment required to receive 6000-7000 TEU ships

Port	Investment required
Ports of Auckland	\$50 million
Port of Tauranga	\$50-\$80 million
Lyttelton Port	\$40-\$80 million
Port Otago	\$100 million

Source: New Zealand Shippers' Council (2010)

A third estimate comes from the New Zealand Institute for Economic Research's analysis of a 'two port scenario', which assumes the total investment requirement would be \$500 million (NZIER, 2010b).

According to the Ports of Auckland, the need for investment in channel deepening is complicated by the fact that not all vessels of similar TEU capacity have the same draft requirements, and that draft requirements are influenced by the composition of the cargoes being carried (eg, proportion of light imports versus heavy exports). Further, they state that dredging undertaken in 2006 means the Ports of Auckland can already guarantee a draft of 13.9 metres twice daily at high tide.¹⁰² This is sufficient to accommodate a fully loaded 6000 to 7000 TEU vessel without the need for investment in any additional dredging.

Investment in domestic transport is required

The adoption of a hub-and-spoke model would increase the demand for domestic transport services (ie, road, rail and coastal shipping). The amount of infrastructure investment needed to accommodate this increase is also disputed.

The Shippers' Council expects rail to play the largest role in transporting containers to a hub port for consolidation. Its analysis indicates that additional rail volumes could be accommodated by re-targeting the Government's \$750 million investment in KiwiRail's Turnaround Plan¹⁰³ towards the upgrades needed to service hub ports (New Zealand Shippers' Council, 2010). The NZIER's analysis makes the different assumption that \$500 million of additional investment in land connections would be required (NZIER, 2010b).

Caution needs to be exercised when using figures provided by external parties to inform public policy decisions. As a general rule, those inside a business have a greater level of information about the cost structure and operation of the business than those outside. Typically, this information is not publicly available, and external parties are left to estimate costs (such as investment needs and returns) based on incomplete or imperfect information. Currently available information does not permit reliable conclusions about the magnitude of investment needed to support bigger ships.

¹⁰¹ If Tauranga and Otago were selected.

¹⁰² A disadvantage of using tidal windows to support larger vessels is relatively long delays should ships miss those windows.

¹⁰³ \$750 million is central government's planned contribution towards the total Turnaround Plan cost of \$4.6 billion.

Are coordination challenges affecting investment in bigger ships?

An important question is whether coordination failures are preventing investment in big ship readiness, or whether investment is not occurring for sound commercial reasons.

Applying the analysis set out in section 9.3, the potential coordination challenges that may apply to investment in bigger ships are:

- **Rationalisation:** Consolidating container volumes at one or two ports would require non-hub ports to exit – or scale back substantially – the international container cargo industry (ie, a rationalisation of ports handling containers). Owners of these ports may have political and financial incentives to resist rationalisation, even though it may improve the overall efficiency of the international freight supply chain (and thereby the wellbeing of New Zealanders).
- **Investors' dilemma:** This could result in under-investment in port upgrading. Trade volumes (at least in the medium term) support at most one hub port in the North Island and another in the South Island. If two ports on an island invest, then capacity will be underutilised and both will receive an unsatisfactory return on investment. If none of the ports invest, a profitable opportunity could be forgone. A dilemma may arise if two or more ports are motivated by non-commercial reasons to become the hub port for an island. Fearing that their investment would be duplicated by another port, each port may avoid making the first investment.
- **Commitment:** A hub port may seek commitment from the government for complementary investment in road or rail infrastructure before the port invests in the infrastructure to support bigger ships. The government, on the other hand, may not wish to invest until the port or ports have made their own investment commitments.

There are many possible approaches to addressing coordination challenges, as discussed in section 9.3. For example, contracting could be used to overcome the commitment challenge and implicit coordination to overcome the investors' dilemma.

Reform of governance and ownership arrangements may contribute to addressing these issues, because the rationalisation challenge and the investors' dilemma are more likely to occur with the mixed objectives associated with public owners. Such reforms are discussed in Chapter 10.

The role of investment risk

Investment decisions depend on the expected return on investment. Decision makers face strong incentives to overcome investment obstacles (including coordination challenges) when the expected returns are high.

Investors' perceptions of risk are also crucial. In this case the risks associated with the nature of the assets will be important (eg, the technical requirements of ships such as draft and berth length). Similarly, the risk that shipping lines might alter their timetables and/or revert back to smaller ships in the future will add to uncertainty around the income stream generated from the investment.

Auckland Council highlighted such risks:

The most significant issue is around future investment. The substantial financial demands required to service ever larger vessels with larger volumes of containers in an environment where international container shipping lines have strong bargaining power and the ability to shift operations between ports creates an environment of uncertainty with the risk of over- or under-investment.

Auckland Council, sub. 53, p. 10

Individual ports may choose differing investment strategies in response to these risks, depending on their attitudes to risk and how they expect the future to unfold.

A diversity of approaches can be an efficient way for society to deal with uncertainty. Some port companies may believe the arrival of bigger ships is imminent and undertake all the capital works needed to accommodate them. Some may delay investment until there is more information. Others may invest just

enough to enable them to react promptly to future changes in market conditions (for example, by commencing the RMA consent process or drawing up infrastructure plans).

F9.8

Prescribing a single approach to investing to support bigger container ships is unlikely to be an efficient way to deal with the significant investment risks.

Trade-offs involved in moving to a domestic hub-and-spoke model

The 'hub-and-spoke' model of shipping has the potential to deliver greater economies of scale for shipping lines and ports, which may translate into lower prices for shippers.¹⁰⁴ However, reduced competition at hubs, and reduced economies of scale at non-hub ports, could lead to higher shipping costs. In all likelihood such a move would create both winners and losers.

The New Zealand Institute for Economic Research argues that a reliance on two hub ports will reduce competition between ports, allowing hub ports to raise their fees, which will then be passed on to shippers (NZIER, 2010b). Such increases in port fees could offset the productivity improvements obtained from consolidating port volumes and moving to bigger ships.

F9.9

While larger container ships servicing one or more New Zealand hub ports would lower voyage operating costs, it is unclear whether these cost savings will be transferred to shippers, or whether the reduced competition between ports (and shipping lines) would result in higher port charges and freight prices.

Moving to a domestic hub-and-spoke model may reduce the revenues of non-hub ports if they have fewer international ship visits. They may also face stranded container-handling assets should significant volumes move to rail. Shippers using these ports may face increased charges.

Shippers that previously utilised non-hub ports would need to transport their cargo greater distances to the hub port, leading to higher domestic transport costs and longer travel times. They may also have less frequent services. Port of Napier's submission summarised several of these issues.

On an entirely pragmatic level, the logistical challenges for (hub) ports are considerable. Although not insurmountable, we cannot lightly dismiss the effect of New Zealand's unique pattern of trade – ie, the import/export imbalance and geographic location of cargo (remote from many larger ports), its strong seasonal bias, reefer capacity needs, cool chain integrity concerns with longer inland transport transits, and the increased opportunity for spoilage or delays.

Port of Napier, sub. 10, p. 2

Similarly, Ports of Auckland notes:

Cargo owners need options and there is considerable risk for "New Zealand Inc" should we become reliant on 1-2 large services each week where a vessel breakdown or delay could have a significant impact on supply chains. Volumes need to be spread.

Ports of Auckland, sub. 50, p. 27

F9.10

Unevenly distributed impacts make it difficult to determine whether shippers, as a whole, will be better or worse off in a bigger ship scenario. A domestic hub-and-spoke model will likely reduce the transport costs faced by some shippers, and increase the cost to others – creating both winners and losers.

¹⁰⁴ It should be noted that 'hub-and-spoke' configurations are not inherently more efficient than other arrangements. (See case study 3.)

Will shipping lines hub through Australia?

Will shipping lines hub New Zealand cargoes through an Australian port if New Zealand does not invest quickly to support bigger ships? The Shippers' Council regards this scenario as probable. The Commission's analysis, however, suggests otherwise.

Several submissions warned against such a scenario – in particular because of the perceived risks for exporters of time-sensitive cargoes. For example, the Ministry of Agriculture and Forestry pointed out that:

In assessing the costs and benefits of hub-and-spoke arrangements it is important to make a distinction between what is efficient for a transport operator and for a cargo supplier. This point was illustrated in the August 2010 New Zealand Shippers' Council report (The Question of Bigger Ships), which identified a number of risks with trans-shipping through Australian ports. While there is potential to access larger and more specialised vessels, time-sensitive cargoes (such as horticulture and meat) could face delays, particularly during peak export seasons in Australia, when container slots are at a premium.

Ministry of Agriculture and Forestry, sub. 32, p. 5

The Port of Napier submitted a different view:

There also seems to be concern that unless the country invests for 7000 TEU vessels, New Zealand will suffer the indignity of being subjected to feeder operations in support of larger Australian-oriented services...

If this type of network development gathers pace – and shippers are happy with the resulting passage to/from market – then NZ Inc may be better served by not having to invest hundreds of millions in infrastructure development.

Port of Napier, sub. 10, p. 14

The Shippers' Council estimates that hubbing through an Australian port would add \$325/TEU to the current cost of a direct New Zealand-Singapore service, the majority of the additional costs being for transshipment at Australian ports. Furthermore, the hubbed service would provide inferior service quality relative to the status quo (New Zealand Shippers' Council, 2010). But in this scenario, competing shipping lines would have an incentive to reinstate a direct New Zealand-Singapore service and capture some of this revenue. Hubbing via Australia will only be viable should it provide a lower price or improved service quality than the status quo. Proposals to provide inferior service at higher cost to consumers are invariably punished in competitive marketplaces. Shippers are unlikely to pay \$325 more for an inferior service, and shipping lines are unlikely to 'leave money on the table' by missing an opportunity for profit. The Commission cautions against using the 'Australian hubbing' scenario to justify investment in bigger ship readiness or central government planning of port infrastructure.

The expressed concerns about hubbing through Australia may be overstated. Much New Zealand container freight is currently hubbed through Singapore, and some is hubbed through Australia (New Zealand Shippers' Council, sub. DR69). Scale economies and improved connectivity provide benefits for shippers, though there is always the risk of congestion or delays at hub ports.

F9.11

The scenario in which a lack of container ports in New Zealand capable of handling bigger ships forces hubbing through Australia, with both higher costs and transit times, appears unlikely. The commercial viability of this scenario would be undermined by direct services with smaller, albeit less fuel-efficient, container ships.

Concluding comments

These case studies confirm that there are significant coordination challenges for those making investment decisions in the freight transport sector. However, analysis of these case studies supports the conclusion reached in section 9.5. There are different options for addressing these challenges, and participants in the sector have incentives to develop these options. Governments can usefully promote this process by facilitating information sharing and discussion about different options, while ensuring that there is adequate coordination between different levels of government and between their own investment decisions when

these cut across transport modes. But if the government adopts a strong leadership approach, it may well choose an inferior option, based on incomplete information.

10 Governance and ownership

Significant components of the freight supply chain are dominated by central and local government-controlled firms. Effective governance of these firms is crucial to ensure decisions that maximise efficient operation and achieve the objectives of their owners. This chapter discusses the challenge of improving firm governance (section 10.1) and choosing the most appropriate ownership model (section 10.2).

Key points

- Many councils consider current governance and ownership arrangements for port and airport companies to be optimal. The Commission believes that improvements to these arrangements are desirable, with the resulting improvement in productivity benefiting international freight transport and the nation generally.
- Councils have multiple, legitimate objectives; in particular the social, economic, cultural and environmental wellbeings of their communities. They face difficult trade-offs between these objectives.
- Councils should not try to achieve all objectives in every entity they control. Council-controlled port and airport companies should concentrate on increasing productivity and maximising shareholder value. Enhanced financial returns can fund the delivery of non-commercial objectives, either directly or via other council-controlled entities.
- Port and airport companies are likely to be more productive and profitable with narrower, primarily commercial objectives and a governance structure to suit.
- The legislated principal objective of council-controlled port and airport companies should be changed to: “to be a successful business, as profitable and efficient as comparable businesses that are privately owned”.
- Effective governance arrangements for publicly owned companies are essential because they face less discipline from other sources than comparable privately owned companies.
- Elected representatives and council staff should be precluded from being directors of council-controlled port and airport companies to reduce conflicts of interest, roles and objectives. All relevant legislation should embody this provision.
- Changes to the ownership of publicly owned companies can help improve governance, through increased transparency and improved incentives to perform commercially. Councils should be clear about the objectives they wish to pursue through port and airport ownership. Having decided those objectives, they should choose the minimum level of council ownership that offers the required control rights.
- One option for public owners seeking to improve governance is to opt out of the relevant public-sector governance regime and into the stock-exchange regime. A stock market listing offers significant potential governance improvements for larger companies with partial public ownership. These benefits arise from an observable share price, reporting and continuous disclosure rules, and external analysis of company decisions. Other options include bringing in a cornerstone private shareholder, or some form of public-private partnership.

Issues related to governance and ownership arose in various contexts in this inquiry, including financial performance (Chapter 3), workplace productivity (Chapter 6) and investment planning (Chapter 9). The achievement of operational and dynamic efficiency in international freight transport services requires

ongoing pressure for improvement in cost reduction and service delivery. Whether these improvements emerge and contribute to productivity in the freight chain will depend crucially on whether there are improvements in governance – the rules that assign rights and responsibility, and define the processes by which decisions are made within organisations.

The behaviour of a company's owners is critical to creating and maintaining this pressure, as owners define the company's aims, select its directors, and reward the delivery of targets. Choices about ownership can act to incentivise better or worse performance.

The circumstances of specific companies can differ widely, but governance issues affect them all.

10.1 Governance

Debates on the effectiveness of governance – and particularly on the laws surrounding the governance of organisations – can be perceived as subtle and, to some extent, removed from the practical issues and challenges of company performance. However, even relatively small changes in the quality of governance could give rise to significant improvements in economic performance as freight infrastructure is crucial to New Zealand's international competitiveness.

This section explores the current governance arrangements for port and airport companies that are majority or fully owned by local government authorities, and addresses the question of how these arrangements might be improved. The related, but separate, issue of union governance is covered in Chapter 6. Governance arrangements for KiwiRail are addressed briefly in section 10.1.6.

Box 10.1 The context for constructive discussion about governance

Constructive discussions about governance need to make the clear distinction between governance structures, and the performance of the people who currently perform roles within those structures. It is clearly possible that well informed, well intentioned and principled people can overcome the limitations of poor structures to achieve great results. It is equally possible that the wrong people in an otherwise excellent structure can achieve poor results. The Commission is not commenting on the performance, intentions or capability of any individual involved in the past or current governance of the organisations discussed in this report.

The starting point for this chapter is the desire to seek an improvement to the efficiency of the freight system through an improvement in governance. A good governance structure is one that has the right incentives to collect and share relevant information, encourage better decision making, and recruit and retain capable people in governance roles.

The ongoing search for improvement is one aspect of good governance. The current arrangements – with which the current participants are comfortable – are not necessarily the best available for the circumstances the organisation faces (or will face in the future). Organisations should be open-minded about changes to improve their governance arrangements.

10.1.1 What is governance and why does it matter?

The concepts of governance apply, with some crucial differences, both to governments and corporate organisations.¹⁰⁵ The focus in this chapter is on governance of the publicly owned (or controlled) companies engaged in the international freight chain, with a view to improvements to the efficiency of that chain.

Corporate governance is concerned with the distribution of rights and responsibilities among the different participants in the organisation – such as the board, managers, shareholders and other stakeholders – with

¹⁰⁵ 'Governance' in this report refers primarily to *corporate governance*. In the local government sphere the same term is often used quite differently – referring to a cooperative multi-stakeholder approach that extends beyond the formal institutions of government (Hambleton, 2004).

the aim of ensuring that the organisation makes value-maximising decisions across all of its functions and activities.

Governance is of particular importance for publicly owned companies. As identified by Michael Jensen:

There are only four control forces operating on the corporation to resolve the problems caused by a divergence between managers' decisions and those that are optimal from society's standpoint. They are the:

- capital markets [including shareholders as the providers of equity capital];
- legal/political/regulatory system;
- product and factor markets; and
- internal control system headed by the board of directors [ie, governance arrangements].

Jensen (1993, p.850)

Jensen points out that when one or more of these control forces is weakened, the other control forces need to be stronger to compensate. For publicly owned companies, which typically have reduced discipline in the capital, product and input markets (see section 10.2.3), governance arrangements should be of the highest quality, and stronger in some respects than for comparable privately owned companies.

Weak governance can lead to adverse consequences. Powerful customers and suppliers can exploit weakly governed companies. Weak governance might also allow wages and benefits to get out of line with what is justified by company productivity, or tolerate inefficient work practices (Chapter 6). Weakly governed firms tend to pay their CEOs more on the basis of luck than performance (Bertrand and Mullainathan, 2001). These consequences all come at the expense of the company's owners and other stakeholders.

F10.1

Effective governance ensures that the organisation makes value-maximising decisions across all of its functions and activities. Publicly owned enterprises need high-quality governance arrangements because they face less discipline from other sources than comparable privately owned enterprises.

10.1.2 Multiple and single objectives for companies

The Companies Act 1993 specifies the governance arrangements for companies. Of particular note is the duty of directors, who "must act in good faith and in what the director believes to be the best interests of the company" (s.131(1)). This is a duty to the company, rather than one to the shareholders who appointed that director.

For council-controlled ports and airports, additional arrangements are specified in the Port Companies Act 1988, Airport Authorities Act 1966 and Local Government Act 2002 (LGA). These arrangements are subject to relatively low levels of ongoing scrutiny by Parliament and others. The analysis in section 0 below suggests these arrangements would benefit from improvement.

Councils exist to achieve multiple objectives for their communities. These are specified in s.10 of the LGA:¹⁰⁶

The purpose of local government is—

- (a) to enable democratic local decision-making and action by, and on behalf of, communities; and
- (b) to promote the social, economic, environmental, and cultural well-being of communities, in the present and for the future.

¹⁰⁶ The Government announced a reform package for local government on 19 March 2012. Foreshadowed amendments to the LGA include replacing "references to the 'social, economic, environmental and cultural well-being of communities' (the four well beings) with a new purpose for councils of 'providing good quality local infrastructure, public services and regulatory functions at the least possible cost to households and business' (New Zealand Government, 2012, p.6). Such changes would likely lead to a narrowing of objectives for local government; however, the broad arguments presented in this chapter are likely to remain relevant.

These multiple objectives are legitimate. However, the mismatch between multiple objectives at the council level and more specific objectives at the council-controlled company level can create difficulties for the governance of those companies (Box 10.2).

Without a single, clear objective, corporate governance will be much harder than it needs to be.

Box 10.2 Multiple objectives create accountability and monitoring problems

The objectives of council-controlled organisations are typically a mix of the commercial and non-commercial. While the Companies Act is permissive of different business objectives (as the owners dictate), the fundamental premise of the Act is that companies will seek to maximise their commercial success over the long term, usually measured in terms of shareholder value. This single focus sharpens the accountability on directors to vigorously pursue that goal to discharge their duty to the company.

It is impossible to simultaneously maximise multiple objectives (Jensen, 2001). An exception is the specific case where objectives were fully compatible: that is, maximising any one of them would also maximise the others. This case can be safely treated as having a single objective. 'Multiple objectives', as used in this chapter, thus refers to conflicting objectives. Trade-offs need to be made in deciding which objectives will be achieved, and to what extent.

When faced with multiple objectives the duty of directors is to pursue those objectives as well as possible. This immediately raises issues of how different objectives are weighted and whether the objectives are complementary or, if in conflict, what takes precedence and in what circumstances. In the complex reality that organisations face, these are judgements that individual directors are forced to make; judgements that invariably carry a high degree of subjectivity and are difficult to codify or formulate.

Multiple objectives thus make it difficult to ever determine whether a director is discharging his or her duty to the company. This has the effect of partially shielding directors from challenge, and therefore they face muted incentives to vigorously pursue the core long-term interest of the company. For example, it may be difficult to determine whether poor profitability in a port is occurring because managers have been slow to introduce cost-reducing innovations, or because they are pursuing non-commercial objectives, such as environmental improvements or avoiding job losses.

For council-controlled organisations that are 100% owned by a council, there is also no other shareholder to challenge the decisions of directors where decisions could be argued to not accord with the long-term interest of the company. Under the Companies Act there is a range of protections and entitlements accorded to minority shareholders to ensure their ownership interest (however small) is linked to the long-term interest of the company, and not the interest of one or more larger shareholders. The absence of this discipline further mutes the accountability and transparency of the general duty of care of directors of council-owned organisations.

Where multiple councils have an ownership interest, and are active in the decision making of the company, there is also a risk that directors attempt to accommodate different or competing views – to keep all parties happy (eg, by adopting a 'lowest common denominator' position) – with an associated adverse impact on the company itself. This issue is not unique to council ownership; however, it may have greater significance in the context of the other problems discussed above.

Do private-sector companies pursue multiple objectives?

Inquiry participants¹⁰⁷ made the point that private-sector companies pursued multiple objectives, often under the banner of corporate social responsibility (CSR). Companies voluntarily adopt CSR policies that encourage or require them to go beyond minimum regulatory standards in areas such as environmental protection.

¹⁰⁷ Eg, Auckland Council (sub. DR60); Local Government New Zealand (sub. DR77).

CSR objectives can be framed as supplementary objectives, in the sense that they are evaluated on an 'all else being equal' basis. A company faced with a decision between two options of equal commercial value might use supplementary objectives to tie-break. Supplementary objectives do not create the multiple objective problems described in Box 10.2.

A CSR policy that leads to improved sales or lower public relations costs is entirely consistent with a primary shareholder-value objective. On the other hand, a CSR policy that reduces shareholder value is likely to be abandoned or modified.

Private-sector companies that adopt CSR may appear to be pursuing multiple objectives, but in practice may apply a single criterion for deciding amongst them. This is akin to pursuing a single, commercial objective.

10.1.3 Matching governance structures to the scope of the company

Effective governance will be compromised if the purpose of the company – and hence the accountabilities of directors and managers – are unclear. To create value for stakeholders the purpose of the company as set out by its owners must be clear.

Ideally a company has a clearly defined single objective, and a governance structure tuned to this objective. An important step towards achieving that ideal is for owners to assess the optimal scope or boundaries of the company's activities.

The scope or boundaries of the firm define those productive activities, assets, liabilities, risks and contingencies that the governance structure takes responsibility for and looks to managers to manage. The governance structure includes explicit and implicit contracts between the company and the stakeholders for distributing responsibilities, rights, and rewards. A governance structure must provide for all of these to be effectively managed.

The intention – variously expressed – of the laws concerning port and airport companies is that they are managed to commercial objectives. It is therefore essential for avoiding conflict and confusion that the business activities that are to be run by these companies are ones for which commercial objectives are both appropriate and explicitly chosen. This may not cover all of the present assets or activities of port or airport companies. Some assets and activities may not be best managed to commercial objectives where non-commercial objectives are significant, and should be governed differently and to different objectives. The efficient solution may be to move such assets and activities to other organisations, allowing the port or airport company to focus on its remaining commercial objectives.

For example, urban ports are using waterfront land, some of which might have higher value in an alternative use. Should the owners of a port want the port company to focus on being an efficient port, they may therefore decide not to leave the company free to diversify into real estate. One way to accomplish this is the landlord model (see section 10.2.4).

Further, there may be activities where commercial objectives are appropriate but may not, however, be best run by a company whose governance arrangements and primary focus are geared to running a port or an airport.

The most productive governance arrangements will be those that are tuned to the scope and nature of the business in question. The scope of the business is defined by the choices made by owners, boards and managers from a variety of options, including leasing, public-private partnerships, engagement with other public enterprises and outsourcing – in addition to direct managerial control of service delivery. Some of these options involve the entry of other shareholders where this strengthens the governance in various possible ways. Section 10.2 discusses some of the issues around such options.

10.1.4 The firewall between multiple and single objectives

The Port Companies Act specifies that the principal objective of every port company is to operate as a 'successful business'. However, the interpretation of 'successful business' is not specified. Shareholders have the ability to further specify a port company's objectives through modifications to the port company's

statement of corporate intent. Directors are constrained to make decisions in accordance with that statement.

The Airport Authorities Act 1966 requires airport companies to be managed as a 'commercial undertaking'. This is generally interpreted as a single objective: ie, to maximise the commercial value of the company over time. The High Court has commented:

The direction is to act "commercially". A commercial operation spends money to make money. It builds a factory or buys a farm as an investment to produce a profit. It always seeks a return upon such 'sunk' capital. If there were no prospect of return from capital outlay, it would not be made. The commercial operator is not building a church or a monument. As a matter of ordinary language and understanding, when a company spends money on assets, against the background of a direction to act "commercially", it is expected to produce a return on that expenditure.

Air New Zealand Ltd & others v Wellington International Airport Ltd [1993]

These Acts appear consistent with the idea that society's interests are best served by having a single commercial objective for port and airport companies. The Acts, working in concert with the Local Government Act and Companies Act, have the effect of creating a 'firewall' that creates a degree of separation between the company's commercial objectives on the one hand and the wider objectives of the owner on the other.

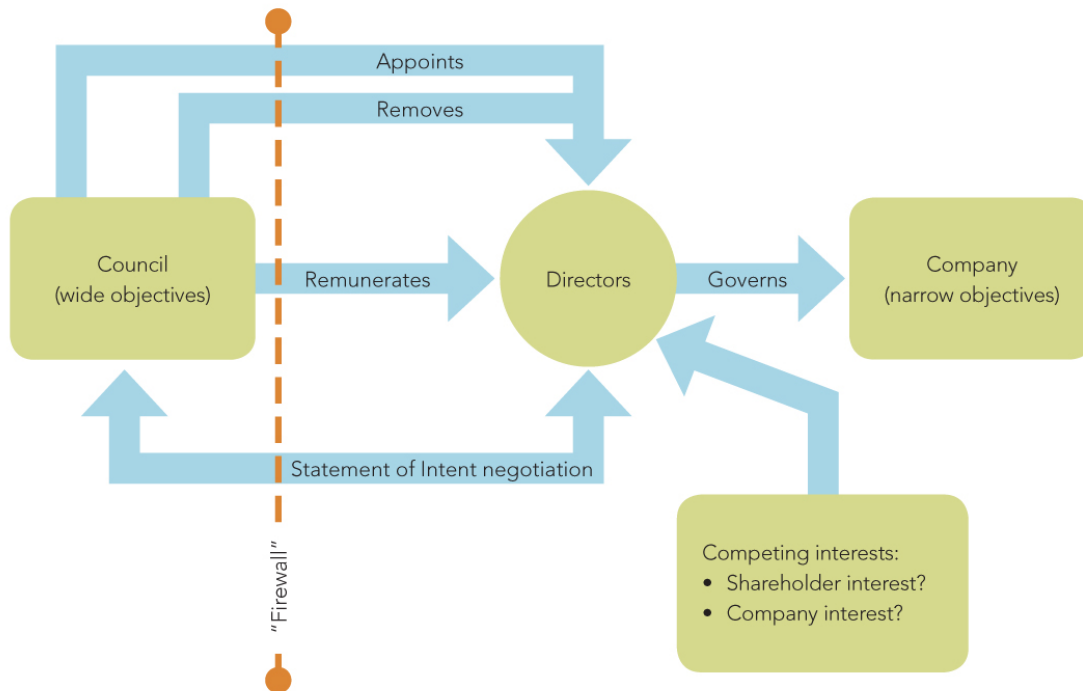
A superficial reading of the Acts suggests that this firewall is both comprehensive and effective. In practice, however, each director and potential director is aware of the council's wider objectives. Each director knows that to retain their positions they need to keep their council 'bosses' happy over time, given that the council has the power to appoint and remove them.

The Local Government and Port Companies Acts specify a process by which a Statement of Corporate Intent is negotiated between a council and the directors of a council-owned company. This process is designed to increase transparency and accountability. However, it creates opportunities for the council to communicate objectives that may not be in the interests of the company (and indeed to insist on them), and further influence the decisions of the board on matters for which the board has a legal responsibility to advance the company's interests.

The council, in its role as owner of a port or airport company, is bound by the wider objectives of the Local Government Act when discharging its duties as owner. These duties cover council decisions about its shareholding and, in the case of majority ownership, substantial control over the capital-raising activities of the company. Council decisions should not, however, cover matters that go beyond the authority of shareholders under the provisions of company law and transgress on the board's duties under the constitution of the company. For example, council as shareholders should not interfere in operational decisions. An effective firewall resolves this tension between the duties of councils and the duties of directors in a practical way.

Figure 10.1 shows this firewall, and the routes by which the council's other objectives may influence the governance of the company. This allows these objectives to 'leak' across the firewall. Directors thus face competing and potentially conflicting objectives in their decision making.

Figure 10.1 The firewall between the objectives of councils and council-owned companies

**F10.2**

The Port Companies Act sets the principal objective of every port company as being to operate as a 'successful business'. That objective could be clearer for council-controlled port companies. Their potential efficiency may be limited should they pursue the multiple objectives of their shareholders.

F10.3

The Airport Authorities Act requires airport companies to be managed as a 'commercial undertaking'. In the case of majority council ownership, that requirement may be supplemented with the commercial and non-commercial objectives of the airport company's owners.

This leaky nature of the firewall is consistent with the submissions quoted in section 10.2.4. These submissions indicate that councils choose to own local ports and airports because ownership enables them to exercise control. If the firewall was impervious to those wider objectives not shared by the company, then the council would presumably treat these assets in an equivalent manner to other financial assets held (or potentially held) by the council; for example, it might be ambivalent as to whether it holds an equity stake in a locally or remotely located port.

Is a firewall desirable?

Some participants argued that an effective firewall was not desirable. For example:

While striving for efficiencies is key, councils should not be restricted to seeking purely economic objectives from the assets they hold on behalf of the community.

Waikato Regional Council, sub. DR85, p. 2

...it is entirely possible for multiple objectives to be clearly held, and systematically pursued, on the basis of an explicit weighting of the various elements, and government is above all the arena where that balancing act is developed as an art. The Commission's arguments for single-minded profit orientation by port management might well, if adopted, simplify the task of the port managers by enabling them to shrug off any accountability for non-profit outcomes of the ports' activities. However, at the same time the task of councils would be rendered substantially more difficult because of the greater difficulty of achieving proper balance amongst competing objectives by regulatory means in

the presence of a firewall cutting directly across areas for which councils will be held democratically accountable (and managers will not).

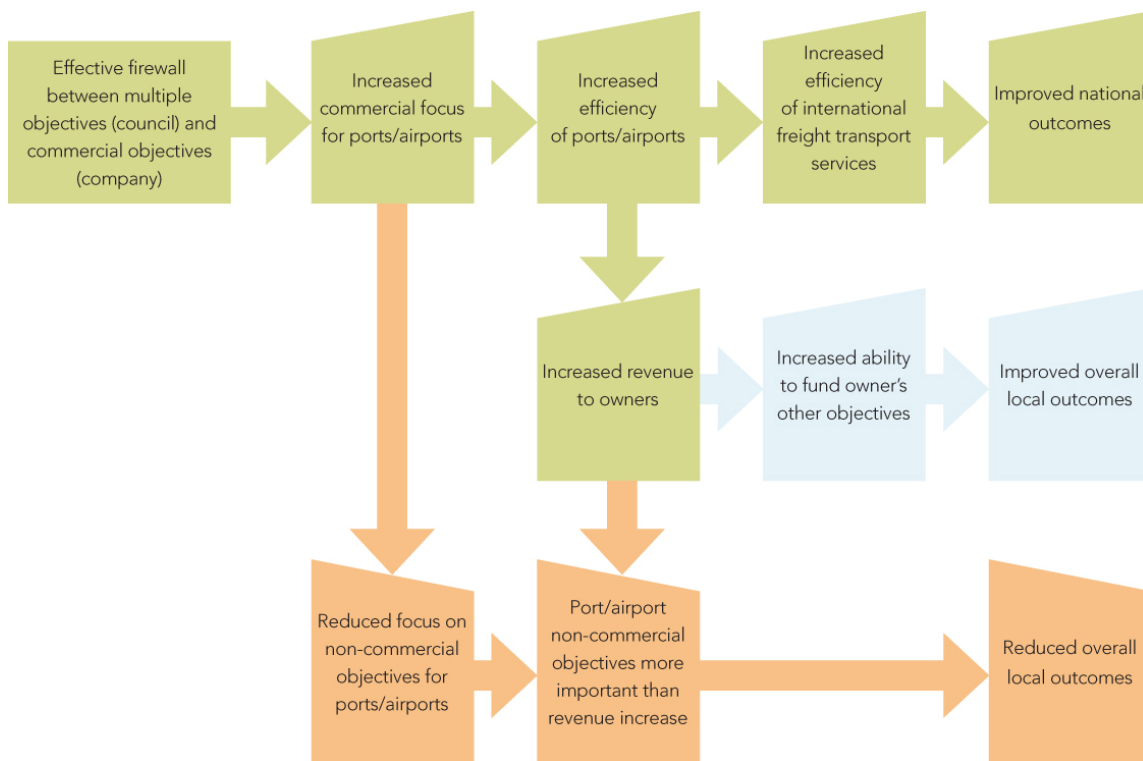
New Zealand Council of Trade Unions, sub. DR101, p. 4

Local government ownership and direction of specific freight assets may be *locally* efficient, in terms of the multiple objectives held by the council, but *nationally* inefficient, in terms of the efficient functioning of the international freight network and the resulting national costs and benefits. The firewall intended by the Port Companies and Airport Authorities Acts can be seen as a mechanism to simultaneously permit both outcomes; however, this requires a recast of thinking.

In this conception, the role of councils is to optimise their multiple objectives *across* all the entities they control activities, rather than pursuing all objectives *within* each entity. Commercial entities should be separated from the non-commercial, and the commercial entities structured to maximise long-term value. The enhanced financial returns from commercial entities can then be used to fund the achievement of the council's wider objectives. The council's overall efficiency is improved through economies of specialisation: commercial enterprises can concentrate on financial returns, and service delivery units can concentrate on delivering services.

Figure 10.2 depicts these alternative conceptions. The green and blue paths show how an effective firewall could lead to improved outcomes, both at the national level and for local government owners charged with multiple objectives. In contrast, the orange path shows an outcome where the non-commercial outcomes available through control of port and airport companies are assigned a higher weight than the non-commercial activities that could be funded through increased revenue. The orange path leads to a conflict between the owner's interest and the national interest.

Figure 10.2 Governance changes to optimise the multiple objectives of owners



The Commission believes that national and local interest is best served by councils optimising their multiple objectives *across* the entities they control. The task of councils becomes more difficult only to the extent that it creates political costs for councillors, should they be unable to explain to their communities the benefits from the additional productivity of this model. Firewalls that are effective, and *seen* to be effective, should reduce such political costs.

Some councils appear to have embraced this conception, for example:

We contend that public ownership per se need not be saddled with multiple objectives...

Napier has effective governance despite its public ownership. The key difference is that we are governed and managed as if we are privately owned...

A fully commercial focus – without elected representatives or council staff – has characterised the Port of Napier Ltd since its inception.

Ports of Napier, sub. DR93, p. 11, 15, 16

F10.4

It is more efficient for councils to optimise their multiple objectives across all the entities they control, rather than pursuing all objectives within each entity. Commercial entities should be separated from the non-commercial, and the commercial entities structured to maximise long-term value. The enhanced financial returns from commercial entities can then be used to fund the achievement of the council's wider objectives.

Can a holding company improve the firewall?

Auckland Council argues that the use of a holding company between the council and the port company can mitigate political influence and allow the port to be “run on a strongly commercial basis”:

From 1993 [Ports of Auckland] has been owned by intermediate ‘one step removed’ agencies, with an appointed board. Consequently, there has been no direct political influence over operational matters...

Auckland Council, sub. 53, p. 6

Others argue that political influence affects port companies, bypassing or flowing through holding companies; for example:

During the 2000s there was a trend of diminishing private sector investment in port companies (most evident in the removal of Ports of Auckland from the stock exchange and reversion to 100% local authority ownership). This has been coupled [with] what appears to have been a reduced appetite from port companies' local authority owners to demand significant efficiency and productivity gains. The reason for this lack of appetite is likely to be political rather than economic.

New Zealand Shippers' Council, sub. 43, p. 5

These arrangements have changed significantly since the Local Government (Auckland Council) Act 2009. Ports of Auckland are now owned by the holding company Auckland Council Investments Limited (ACIL), a council-controlled organisation which is in turn owned by Auckland Council. The objectives of ACIL are specified as:

- (a) to bring a strong commercial focus to the ownership and governance of the Auckland Council's major investment assets; and
- (b) to provide an efficient structure for the ownership of those assets.

Local Government (Tamaki Makaurau Reorganisation) Establishment of Council-controlled Organisations Order 2010, s.5(2)

However, this objective is still subject to the *principal* objective of a council-controlled organisation,¹⁰⁸ which requires achievement of the non-commercial objectives of shareholders¹⁰⁹ as specified in ACIL's statement of intent.¹¹⁰

As council holding companies are subject to the governance arrangements specified in the Local Government Act 2002 for council-controlled organisations,¹¹¹ holding companies are at best a partially effective mechanism to improve the firewall. The Auckland arrangements are superior in some respects to those applying to other councils, and may represent the best extant model of an effective firewall.

¹⁰⁸ See the explanatory note in the Local Government (Tamaki Makaurau Reorganisation) Establishment of Council-controlled Organisations Order 2010.

¹⁰⁹ The council has ultimate control over the contents of the statement of intent (LGA Schedule 8, s.5(1)).

¹¹⁰ Local Government Act 2002 (LGA) s.59(1)(a).

¹¹¹ And, in Auckland, to the Local Government (Auckland Council) Act.

Firewall effectiveness may be further reduced if elected representatives are on the board of the holding company, as is the case for Christchurch City Holdings Limited.¹¹²

F10.5

A holding company can provide partial, but incomplete, insulation between the wider objectives of a council and the commercial objectives of a port or airport company.

10.1.5 Improving the firewall through legislative changes

The intention of the Port Companies Act and Airport Authorities Act to assign a purely commercial focus to port and airport companies has not been fully realised. This raises the question as to whether legislation could be improved to fulfil that intention.

Governments (central and local) have three separately identifiable interests in a publicly owned company: financial, control (to achieve wider, non-financial objectives) and regulatory (eg, responsibilities under the Resource Management Act).

In New Zealand the model in the State-Owned Enterprises Act 1986 has the cleanest separation between these three interests, suggesting that this Act could be used as a model for improvements to other relevant legislation.

The State-Owned Enterprises Act, Local Government Act, Port Companies Act, Airport Authorities Act and Local Government (Auckland Council) Act specify different types of publicly owned companies, and specify different objectives and governance regimes for each of those types.

With this number of Acts, there is a danger that only some will get updated as best practice evolves, leaving others behind.

There is case to clean up the legislation. For example, one Act could cover owner behaviour, another cover general company behaviour, and a third (if required) cover company scope and behaviour specific to that industry. Airports are closest to this model, where the LGA, Companies Act and Airport Authorities Act fulfil these roles respectively.

Improved legislated objectives

Clarity of purpose is important for the governance of publicly owned companies. The purpose statements for state-owned enterprises (SOEs), ports and airports as defined by four separate Acts are listed in Table 10.1.

Table 10.1 Legislated objective of publicly owned companies

Organisation type	Purpose specified in legislation
State-owned enterprises	The principal objective of every State enterprise shall be to operate as a successful business and, to this end, to be— (a) as profitable and efficient as comparable businesses that are not owned by the Crown; and (b) a good employer; and (c) an organisation that exhibits a sense of social responsibility by having regard to the interests of the community in which it operates and by endeavouring to accommodate or encourage these when able to do so
Ports	The principal objective of every port company shall be to operate as a successful business.

¹¹² In 2011, the Mayor and three councillors held four of the eight board positions on the holding company (Christchurch City Holdings Ltd, 2011). Christchurch City Holdings Ltd argues that the presence of councillor directors gives the council confidence that the community viewpoint is represented at the holding company board table (sub. DR82, p. 1).

Organisation type	Purpose specified in legislation
Airports	Every airport operated or managed by an airport authority must be operated or managed as a commercial undertaking.
Council-controlled airports	[In addition to the requirement above] The principal objective of a council-controlled organisation is to— (a) achieve the objectives of its shareholders, both commercial and non-commercial, as specified in the statement of intent; and (b) be a good employer; and (c) exhibit a sense of social and environmental responsibility by having regard to the interests of the community in which it operates and by endeavouring to accommodate or encourage these when able to do so; and (d) ... conduct its affairs in accordance with sound business practice

The requirement in the State-Owned Enterprises Act to be “as profitable and efficient as comparable businesses that are not owned by the Crown” is a clearer statement of purpose than the requirement to be a “successful business” in the Port Companies Act. It is likewise clearer than the requirement to be a “commercial undertaking” (in the Airport Authorities Act) that needs to be reconciled with a “principal objective” specified in the LGA, which includes both conducting “its affairs in accordance with sound business practice”, and achieving the stated commercial and non-commercial objectives of shareholders (LGA).

R10.1

The legislated principal objective of council-controlled port and airport companies should be changed to: “to be a successful business, as profitable and efficient as comparable businesses that are privately owned”.

This recommendation¹¹³ in the draft report drew both support¹¹⁴ and criticism. The New Zealand Airports Association did not “consider that any benefit is to be achieved by revisiting or changing the [Airport Authorities Act]” (sub. DR96, p. 4). Christchurch International Airport concurred, and expressed concern about “a process for amending legislation that will take up management time and resources that are better used elsewhere” (sub. DR96, p. 26). The Commission acknowledges this concern; however, it believes the long-term benefits from a clearer corporate objective will significantly outweigh short-term costs.

The Commission considered the option of a change to the LGA in coming to its recommendation. However, the LGA covers a wide range of organisations and improvements in the governance of ports and airports might be more directly and transparently achieved through changes to the Airport Authorities and Port Companies Acts. A case could be made for general improvements to the LGA for council-controlled organisation governance; however, this topic is outside the scope of this inquiry.

Statements of corporate intent

Statements of corporate intent (SCIs) are a mechanism built into the State-Owned Enterprises Act, the LGA and the Port Companies Act.

SCIs are intended to improve the accountability of companies in public ownership (or controlled by public owners). They provide a means by which a company and its public shareholders can come to a formal agreement about the medium-term objectives for the company, and set goals as benchmarks against which performance will be judged. Draft SCIs are proposed by the company, and various provisions allow the council owners to comment on or otherwise affect final content.

¹¹³ The wording of R10.1 has changed since the draft report in response to submissions, including BARNZ (sub. DR105). The draft report wording was: “The objectives of council-owned port and airport companies should be brought into line with the objectives for state-owned enterprises; ie, to be as profitable and efficient as comparable businesses that are privately owned.”

¹¹⁴ Supporters included Auckland Airport (sub. DR79) and Port of Tauranga (sub. DR102).

An SCI includes the following:

- the objectives of the company;
- the nature and scope of the activities to be undertaken; and
- the performance targets and other measures by which the performance of the company may be judged in relation to its objectives.

Port Companies Act

A council shareholder has the right to comment on a draft SCI. It can also direct a change to a SCI (s.11), though it must first consult with directors and “have regard” to the principal purpose of the company (ie, to be a successful business).

The SCI process does not apply to a port company that is listed on a registered exchange’s securities market (eg, the NZX). The Minister for Transport can also exempt a port company from the SCI process if it has majority private ownership or in other circumstances (s.14).

Local Government Act

The SCI provisions in the LGA for council-controlled organisations apply to council-controlled airport companies.

The purpose of a statement of intent is to—

- state publicly the activities and intentions of a council-controlled organisation for the year and the objectives to which those activities will contribute;
- provide an opportunity for shareholders to influence the direction of the organisation; and
- provide a basis for the accountability of the directors to their shareholders for the performance of the organisation. (Schedule 8, s.1)

A council shareholder has the right to comment on a draft SCI. It can also direct a change to a SCI (Schedule 8, s.5), though it must first consult with directors.

The SCI process does not apply to a council-controlled organisation that is listed on a stock exchange (s.71A).

State-Owned Enterprises Act

The State-Owned Enterprises Act contains provisions relating to SCIs largely equivalent to those in the Port Companies and Local Government Acts, though there is no provision relating to stock exchange listing.

Analysis

The SCI process offers a formal mechanism for a controlling public shareholder to communicate objectives, including non-commercial objectives. Positive features of this mechanism are its transparency and its promotion of accountability.

In the case of the Port Companies Act, the council cannot insist on a change unless it has regard to the principal purpose of the company. This reinforces the importance of the principal purpose.

The arrangements for council-controlled airports and state-owned enterprises are less conducive to the ongoing and effective separation of commercial and non-commercial objectives.

Improving boards of directors

For council-owned organisations the appointment of directors is a particularly important power and has appropriately been the subject of attention and special provisions. Major considerations include the composition of boards, and the independence (perceived and actual) and capability of directors.

The provisions relating to boards and directors vary significantly between the relevant Acts. Fair and transparent processes – to build and maintain public confidence – are desirable for all these companies. It is unclear why such variation in approaches has come about, and why it persists. A comparison of the provisions relevant to director appointments is set out in Table 10.2.

Table 10.2 Director appointments in publicly owned organisations

Organisation type	Key statutory provisions relating to director appointments	Implementation
State-owned enterprises	<p>(1) The directors of a State enterprise shall be persons who, in the opinion of those appointing them, will assist the State enterprise to achieve its principal objective.</p> <p>(2) All decisions relating to the operation of a State enterprise shall be made by or pursuant to the authority of the board of the State enterprise in accordance with its statement of corporate intent.</p> <p>(3) The board of a State enterprise shall be accountable to the shareholding Ministers in the manner set out in Part 3 and in the rules of the State enterprise.</p>	<p>The Crown Ownership Monitoring Unit within the Treasury has responsibility for company performance monitoring and facilitating director appointments, under the direction of the shareholding Ministers.</p>
Council organisations (includes airports and ports)	<p>A local authority must adopt a policy that sets out an objective and transparent process for—</p> <p>(a) the identification and consideration of the skills, knowledge, and experience required of directors of a council organisation; and</p> <p>(b) the appointment of directors to a council organisation; and</p> <p>(c) the remuneration of directors of a council organisation.</p> <p>A local authority may appoint a person to be a director of a council organisation only if the person has, in the opinion of the local authority, the skills, knowledge, or experience to—</p> <p>(a) guide the organisation, given the nature and scope of its activities; and</p> <p>(b) contribute to the achievement of the objectives of the organisation.</p>	<p>Policies differ in their approach and viewpoint on what constitutes a good appointment practice. In particular, there are different perspectives on the appropriateness of elected representatives acting as directors. For example:</p> <p><i>New Plymouth District Council</i> – “It is not considered appropriate for either staff or Councillors to act as directors of Council-controlled organisations. This could create conflicts of interest between the roles of staff as advisors to Councillors and Councillors as objective decision makers while having the responsibilities of the role of a director.”</p> <p><i>Hamilton City Council</i> – “Council will determine the required skills, knowledge and experience for each appointment. Candidates are not restricted to Councillors – in some cases, it may be more appropriate to appoint Council staff or external people with affiliations to the Council.”</p> <p><i>Wellington Regional Council</i> – “CCO boards comprised of four or more directors will have a designated elected member position, unless otherwise determined by Council... Only one elected member may be appointed to any one CCO board at any time... Wellington City Council employees are not eligible to be considered as candidates for director positions to CCO boards unless they are appointed in their capacity as an employee of Wellington City Council. Council may choose to appoint an officer to the board of a CCO as a way of ensuring Council’s interests in the entity are monitored and managed.”</p>

Organisation type	Key statutory provisions relating to director appointments	Implementation
		<i>Christchurch City Council</i> – “The CCHL constitution provides for a maximum of eight directors and it is intended that it comprises a mix of four Council and four non-Council directors. It is critical to the success of this board that it has a composition which is capable of maintaining the confidence of both the Council and the subsidiary companies.” Council policy requires the directorships of CCHL subsidiary companies to be made on the basis of merit rather than representation. There are currently no councillor directors on any CCHL subsidiaries (Christchurch City Holdings Limited, sub. DR82).
Ports	<p>(a) that there shall be no fewer than 6 directors of the port company; and</p> <p>(b) that not more than 2 members or employees of the Harbour Board or any other Harbour Board, territorial authority, regional council or united council that holds any equity securities in the company of any class that confer rights to vote at any meeting of the company may be directors of the port company.</p> <p>The directors of each port company shall be persons who, in the opinion of those appointing them, will assist the port company to achieve its principal objective.</p>	While ports are not council-controlled organisations under the Local Government Act, they are still defined as council organisations and, as such, the policies applying to the appointment of directors as listed above still apply to the appointment of directors of port companies. The number of appointments of members or employees of local authorities is restricted to two under the Port Companies Act.
Airports	<i>No specific provisions; the provisions related to council organisations apply to airports owned by local authorities</i>	The policies applying to the appointment of directors of council organisations (see above) apply to the appointment of directors of airport companies.
Substantive council-controlled organisations (in Auckland)	<p>Councillors and local board members prohibited from appointment as directors of substantive council-controlled organisations.</p> <p>Director of substantive council-controlled organisation elected to Council or local board must resign before taking up position.</p> <p>Council may appoint chairperson and deputy chairperson of substantive council-controlled organisation.</p>	In addition to the provisions relating to council organisations (see above), substantive council-controlled organisations in Auckland have provisions relating to director appointments. These preclude elected representatives from serving on boards.

Notes:

1. CCO = council-controlled organisation (defined in the LGA)
2. CCHL = Christchurch City Holdings Limited (the holding company owned by Christchurch City Council which holds its interests in Christchurch Airport and Lyttelton Port Company).

The following points arise from this comparison.

- At central government level, there is a body of readily accessible material and good practice guidance from the Crown Ownership and Monitoring Unit (COMU) of the Treasury. In contrast, there is nothing to the Commission’s knowledge that would constitute good practice guidance to inform the decisions and approaches made by each local authority. Some guidance could be useful and efficient, and would contribute to a more principled and consistent approach across local government.

- For ports there is a statutory limit on the number of members or employees of councils that can act as directors of a port, but there is no such limit for airports.
- In Auckland, elected councillors cannot, by law, be appointed to be directors of substantive council-controlled organisations¹¹⁵ – but there is no such restriction for comparable organisations outside Auckland.
- Other local and regional authorities show considerable variation in approach. This ranges from prohibiting both elected councillors and council employees being appointed as directors, to not seeing the appointment of employees or councillors as problematic at all.

The Commission has observed that the appointment policies of local authorities – required by law – are not uniformly easily accessible. This reduces their effectiveness, given their existence and transparency is a means to incentivise good policy and practice.

Elected representatives have an unavoidable conflict of interest when acting as a director for a council-controlled company – in particular there is a conflict between their responsibilities to the community they represent under the LGA and their responsibilities to the company under the Companies Act. For example, councillors can be subject to lobbying in industrial disputes,¹¹⁶ on the presumption that elected representatives are more sensitive to public campaigns than independent board members. Should councillors in this position place pressure on managers to grant concessions to organised labour, this would upset the normal balance of bargaining power in an industrial relations situation. If granted, concessions may come at the expense of the company, and ultimately ratepayers.

Similar considerations apply to council staff, since the council is likely to have regulatory functions (eg, under the Resource Management Act) that affect the company. These potential conflicts of interest may be easier to identify and manage than those of elected representatives; however, council staff on the board of a port or airport may still find themselves seriously conflicted about matters before the board.

The Port Companies of New Zealand submission points out that at the current time there are relatively few councillor or council staff appointments to port company boards: “of the 14 ports, eight have no Councillors or Council Staff on their boards, five have one, and one port has two” (sub. DR90, p. 3). The potential problems outlined in this section appear to be understood in at least parts of the sector, but this does not diminish the case for change.

R10.2

Elected representatives and council staff should be precluded from being a director of council-controlled port and airport companies. This increases the separation between commercial and wider council objectives.

COMU maintains a national database of qualified directors for publicly owned companies. There is an opportunity for local government to take advantage of this database when recruiting directors for port and airport companies.

Improving monitoring

Transparency and reporting are key parts of any governance regime. They concern the supply of information. They are, however, a means to an end: accountability. The important link between the information and accountability is monitoring. For monitoring to contribute to accountability there needs to be demand for the information, the expertise to analyse the information, and the ability to act on that information.

¹¹⁵ While neither Ports of Auckland nor Auckland Airport is a substantive council-controlled organisation, Auckland Council’s holding company Auckland Council Investments Ltd (ACIL) does fall within that classification. ACIL is the council-controlled investment company which owns and manages Auckland Council’s major investment assets, including Ports of Auckland Ltd (100% owned) and Auckland International Airport Ltd (22.4% owned).

¹¹⁶ Eg, see Television New Zealand (2012).

Councils, particularly smaller ones, may lack expertise in monitoring boards, and company performance more generally. Some of the larger councils have responded to this with holding companies, but that may just move the problem as the council still faces the task of monitoring the board of the holding company.¹¹⁷ Furthermore, the incentives of the holding company may be compromised by council involvement or the appointment of elected representatives to the board of the holding company.

Benchmark competition

When other competitive forces are muted, 'benchmark competition' can play an important role. Benchmark competition is based on the compilation of performance indicators by an independent organisation. Typically these indicators are published with sufficient analysis to allow interested parties to make an informed comparison of the performance of the companies of interest.¹¹⁸ For the port sector in New Zealand, KPMG fulfilled this role for some years. More recently it has been undertaken by Rockpoint Corporate Finance, who published port reports in 2008 and 2010.

The economic value added (EVA) analysis of selected ports (section 3.4) found that negative EVAs were common over the period analysed. Persistent negative EVAs raise important questions. The first question is whether the asset values used in the EVA analysis are appropriate. If they are, then there is a legitimate concern that the ports are making poor use of a scarce resource – capital. Port owners should therefore be looking to address this by some combination of better cost control, shifting resources to better uses within the port, or retiring capital for redeployment elsewhere.

EVA figures provide an important measure of the economic efficiency with which capital is being invested and used in the freight transport system. In the interests of improved reporting and transparency, and ultimately of improved efficiency, port companies should regularly publish EVA figures. These analyses should be scrutinised by owners and policy makers.

Because New Zealand ports vary in their mix of business activities (eg, container freight, bulk freight, oil and/or ferry terminals, property investment), the reporting should disclose a breakdown across material business segments of each port (in line with Commerce Commission requirements for electricity distribution, airports and some other industries).

R10.3

Port companies should regularly publish economic value added analyses for their operations, including disaggregated data for significant business segments. This would improve reporting and transparency, and help to ensure the efficient use of capital in the freight transport system.

The central government established COMU to gain some economies of scale and specialisation in monitoring SOEs. Local authorities could similarly benefit from collective monitoring of their commercial companies – further strengthening ownership disciplines and encouraging better performance. The inquiry's draft report suggested the Local Government Commission as a possible home for such a function, and asked stakeholders for their views on hosting arrangements. Respondents generally suggested that the Ministry of Transport was the appropriate host.¹¹⁹ The Port of Tauranga questioned whether new arrangements were needed:

We would argue that this function should, or indeed does already, rest with the Minister of Transport. For instance, Sections 8, 9, 10, 11, 12, & 13 of the Port Companies Act 1988 already have prescriptive requirements for non-listed port companies in this regard. Moreover, Section 16 of the Port Companies Act 1988 currently requires *"within 2 months after the first half of each financial year of a port company, the directorate of the port company shall deliver to the shareholders and the Minister (of Transport) a report of its operations during that half year"* (and goes on to require inter alia; a report of the

¹¹⁷ This task is arguably even more difficult, as it can be tricky for councillors to separate out the performance of the holding company from the performance of the companies in the holding company's portfolio.

¹¹⁸ Information disclosure as a means of economic regulation is explored further in Chapter 13.

¹¹⁹ For example: "...usefully undertaken by the Ministry of Transport" (Federated Farmers, sub. DR73, p. 6); "...a similar type unit [to COMU] within the MOT would be the most appropriate vehicle... Local Government Commission as the host ... is somewhat out of step with a private enterprise stance" (Port of Napier, sub. DR93, p. 16).

operations of the port company and its subsidiaries, audited consolidated financial statements, statements of financial position, profit and loss, cash flows, and dividend recommendations). Surely the architects of the 1988 Port Companies Act intended this to be more than just a receiving function.

Port of Tauranga, sub. DR102, p. 5

The Board of Airline Representatives considers the agency most suited to publishing and reviewing EVA figures for ports is the Commerce Commission, which is already undertaking similar work for airports and other industries. (BARNZ, sub. DR105, p. 3). However, the Commerce Commission's role is economic regulation to constrain market power, rather than to encourage competition through benchmarking. As identified by Port of Tauranga, the Port Companies Act already requires ports to provide financial information to the Ministry of Transport. The Ministry has also started to collate and publish comparative operational performance. These factors indicate that the Ministry of Transport is the most appropriate agency for this role.

R10.4

To support benchmark competition between port companies, the Ministry of Transport should regularly publish an independent assessment of comparative financial performance for port owners and policy makers to consider.

For benchmark competition to work well, each monitored company needs to provide information in a timely manner and consistent format, and there needs to be an interested and motivated audience for the comparative information. For council-owned organisations, it is the last step that often fails. Ultimately it is each resident or ratepayer that benefits from good management of a council-owned enterprise – or loses from poor management. However, each ultimate owner faces low incentives to invest energy in monitoring and providing feedback to the companies or councillors. These incentives are further weakened (relative to the private shareholder case) by the fact that residents and ratepayers have few actions available to them as a result of any information they uncover. In particular, they are unable to choose to divest or increase their stake.¹²⁰

Given poor incentives for monitoring by the ultimate owners, it is their agents (ie, the council), that must take primary responsibility. Councillors, however, are tasked with wider objectives than the companies they monitor. They may also face different incentives at a personal/political level from the communities they represent. These factors mean that they may often not be focused on the commercial performance of those companies.

The Acts covering ports and airports recognise the need for the provision of regular and reliable information to council owners through specification of reporting and accountability provisions, covering such things as statements of intent and annual reports. The details of these arrangements vary from Act to Act. The differences in the core arrangements, while untidy, do not appear to be material.

Improvements in the production and monitoring of information for performance assessment and accountability could be made under existing legislation and would be enhanced by the legislative proposals above about objectives and directors. The Auditor General could do more. But the clearest opportunity for further improvement would be to develop an audience that is more strongly motivated to receive information and to do something with it – through the involvement of minority shareholders. This possibility is explored further in section 10.2.

10.1.6 Governance of rail

The New Zealand Railways Corporation (trading as KiwiRail) is technically a state-owned enterprise. Governance and other arrangements are specified in both the State-Owned Enterprises Act 1986 and the New Zealand Railways Corporation Act 1981, which is a potential source of ambiguity and inefficiency. It

¹²⁰ Other than the high-cost action of moving to a different local government area.

would be preferable if KiwiRail's governance arrangements were specified only in the State-Owned Enterprises Act.¹²¹

KiwiRail is currently classified as a 'multiple objective company', whose financial expectations are moderated by public good delivery requirements (Crown Ownership Monitoring Unit, 2010). However, there is little transparency around exactly what public goods are being delivered and at what cost to the taxpayer. The State Owned Enterprises Act contains provisions for SOEs to receive direct payments for non-commercial activities (s.7), and it would be more transparent if these provisions were actively used by the government to identify expectations around public-good delivery by KiwiRail and the costs incurred in their provision.

KiwiRail submitted that their non-commercial activities "are limited to a relatively minor \$3.2 million annual appropriation covering public rail safety, rail corridor beautification, sponsorships and rail heritage" (sub. DR74, p. 2). However, they go on to say that the Government is expecting wider benefits to New Zealand "from its equity investment in KiwiRail (eg, savings in road construction costs, road safety, reduced greenhouse gas emissions, the option value of an alternate transport system, etc.)" (p. 3). If the level of equity investment is determined purely by expected commercial returns, and these wider benefits are merely a bonus, then the use of s.7 would be inappropriate. If equity investment levels are higher than they would be otherwise in the expectation of wider benefits, then those benefits are being purchased in a non-transparent manner. There is a lack of clarity in statements by KiwiRail and the Ministry of Transport in this regard.

R10.5

Government should use the s.7 provisions in the State-Owned Enterprises Act (providing for SOEs to receive direct payments for non-commercial activities) with KiwiRail to transparently identify expectations around public goods and the costs incurred in their delivery.

10.1.7 Bottom line: better governance can improve performance

This section has explored a range of governance issues that can be particularly difficult for publicly owned companies. Good governance requires addressing all of them: clarity of objectives, appointments, conflicts of interest, transparency, reporting and monitoring.

Local Government New Zealand recommended a high bar for change to governance arrangements:

From our perspective, the Productivity Commission has offered no proof that paints New Zealand's ports and airports as unacceptably inefficient... Clear evidence of inefficiency [should be] identified before significant reform of the governance arrangements for local government-controlled ports and airports is undertaken.

Local Government New Zealand, sub. DR77, pp. 7-8

The danger of the application of an "unacceptably inefficient" criterion is that it could overly favour the status quo. The goal of productive and efficient international freight transport services requires a sustained effort to find and implement efficiency improvements – from wherever those improvements can be found. Governance arrangements can and should be changed in pursuit of this goal.

Given the costs of weak governance of ports and airports – poor returns for owners as well as lower efficiency for importers and exporters – the improvements to governance arrangements outlined in this section should be actively pursued.

10.2 Ownership

This section approaches the question of changes in ownership¹²² from the perspective of the potential improvements this can make to governance. It points to issues that the owners might take into

¹²¹ Parliament has acted to reduce the scope of similar entity-specific Acts when arrangements for that entity are better specified in a more general Act. For example, the New Zealand Trade and Enterprise Act 2003 was largely repealed by the Crown Entities Act 2004.

consideration when evaluating options for changes in ownership. The Commission acknowledges that decisions about ownership changes are ultimately the prerogative of the current owners.

10.2.1 Ownership matters for dynamic efficiency

Innovation in organisational architecture and business models are significant, yet sometimes over-looked, contributors to dynamic efficiency¹²³ (see Chapter 8).

Specific organisational models can drive or constrain investment, technological innovation, productivity improvement and wealth creation. Two key questions in the architecture of organisations operating in competitive markets are:¹²⁴

- What are the boundaries of the organisation? That is, what are the goods and services that an organisation sells, and does it make or buy its inputs?
- Who should own the organisation?

In a competitive environment, firms will experiment with different business models and governance frameworks with a view to gaining an edge on competitors. New models that reduce cost or increase efficiency will be copied by other firms, resulting in dynamic efficiency improvements throughout the industry. Regulatory and contractual constraints on experimentation and adaptation will dampen this process. Similarly, limited competitive pressure lowers incentives for experimentation.

Importantly, as the boundaries change, the best ownership structure is likely also to change – and vice versa. For example, entering new lines of business, gaining access to new technologies, and strategic business partnerships should all trigger reconsideration of ownership structures.

10.2.2 Ownership choices

In general organisations are owned by the group of people that are able to minimise the cost of ownership: that is, by the group that can make collective decisions at the least cost. These are typically groups with similar or aligned interests.

Hansmann (1996) has observed that industries tend to be dominated by a single ownership model. For example, lawyers tend to form partnerships (ie, employee-owned); hairdressers are owner-operated; and charities are controlled by their donors.

Where multiple ownership models exist within a sectors, this is in response to:

- the existence of multiple operating environments within the sector;
- limited competition within the sector; or
- regulatory constraints that inhibit change to a more efficient model.¹²⁵

It follows that public ownership will be the preferred model when the costs – broadly conceived – of other models become prohibitively high. Williamson (1999) observes that there are functions for which public provision is efficient because alternatives are either infeasible or higher cost. This is typically the case for the provision of public goods such as law and order, defence or a national road network. However, it is

¹²² A helpful formal definition of ownership is 'residual rights of control' – ie, the ability to determine how the organisation is to operate when its various contracts do not specify what it must do (Grossman and Hart, 1986). These rights of control are exercised through the governance structure.

¹²³ The IT revolution is just one source of innovation making possible new forms of governance and organisation that promote better performance.

¹²⁴ Coase (1937) – as extended by Williamson (1971; 1981) and Hansmann (1996) – provides a framework for understanding these questions. In the Coase/Williamson model, the boundaries of an organisation are best set at the point that minimises total transaction costs (those costs incurred in making an economic exchange, other than the amount paid directly for the goods or service purchased). More recent developments in the theory of incomplete contracts have extended this analysis to incorporate the optimal sharing of residual contractual risks between business partners and agreements about investments by them that maximise and distribute the mutual returns. The Hansmann model is described below.

¹²⁵ An example of an industry with multiple models as a response to differing business environments is electricity distribution companies: Hansmann noted that in the United States urban firms tend to be investor-owned whereas rural firms are consumer-owned – a pattern also seen in New Zealand. An example of multiple models due to muted competition and regulatory constraints is hospitals – investor, consumer, government and charity owned hospitals provide services in parallel in many countries.

common for public ownership to extend beyond these core functions, sometimes for reasons that can be rationalised as promoting efficient service delivery, and sometimes not. It all depends on the circumstances.

It is common in New Zealand for local governments to own geographically specific infrastructure, such as local roads, water supply, sewerage, storm water, and recreational facilities. Private supply of such infrastructure is generally considered undesirable due to their natural monopoly characteristics and problems with excluding people from accessing 'essential' facilities.¹²⁶ It is common in other countries, however, for some of these services to be provided by private sector enterprises, but usually under various governance arrangements involving partnership with the public sector or subject to regulation.¹²⁷

Ownership of New Zealand's international freight services supply chain

The ownership structure of New Zealand's international freight services supply chain is listed in Table 10.3. The third column is the Commission's assessment of evidence of dynamism of ownership in that component. Evidence of dynamism of ownership includes mergers, acquisitions, changes in ownership structures, and other behaviour consistent with ongoing experimentation in organisation and business models which may contribute to dynamic efficiency in an industry.

Table 10.3 Ownership of international freight services components

Component	Current ownership	Ownership dynamism
Freight forwarders	Generally investor-owned	High
International shipping lines	Generally investor-owned	Medium
Seaports	All commercial ports are majority-owned by a local authority within whose territory the port is located. ¹²⁸ Four ports are listed on the NZX: Port of Tauranga Limited (45% private ownership), South Port New Zealand Limited (34%), Northland Port Corporation (26%) ¹²⁹ and Lyttelton Port Company (6%). ¹³⁰ PrimePort Timaru Limited has 28% private ownership. All other minority ownership stakes are in ports held by other local authorities or other port companies. ¹³¹	Low-medium
Stevedoring/marshalling	Generally investor-owned or vertically integrated with ports	Medium
Road infrastructure	Central government (state highways) and local government (local roads)	Low
Road transport	Generally investor-owned; some owner-operators	High
Rail	Central government	Low ¹³²
Coastal shipping	Generally investor-owned; however, some government ownership (three Interislander ferries operated by KiwiRail)	Medium
Customs, security and biosecurity	Central government	N/A

¹²⁶ 'Excluding access' in this context means an inability to refuse service to those unwilling to pay. For example, difficulties in excluding access arise for ecosystem services such as clean air and water, and infrastructure services such as street lighting and flood control.

¹²⁷ While this list is typical for New Zealand, it is noted that some other countries have made different choices about what is acceptable in terms of private provision. One example is the private provision of drinking water in France.

¹²⁸ Technically Eastland Port Limited is owned by a community trust; however, control rights for that trust are held by the Gisborne District Council. For the purposes of this analysis the port is treated as being owned by the council.

¹²⁹ A further 20% stake in Northland Port Corporation is held by Ports of Auckland.

¹³⁰ A further 15% stake in Lyttelton Port Company is held by Port Otago Limited.

¹³¹ For a comprehensive list see the inquiry's Issues Paper (Productivity Commission, 2011).

¹³² While there have been several changes to the ownership of rail over the past 21 years, the post-2008 arrangements appear stable.

Component	Current ownership	Ownership dynamism
International air freight		
Airlines	Generally investor-owned; however, some governments take large stakes in their 'flag carrier' airlines (eg, the New Zealand Government currently has a 75% stake in Air New Zealand)	Medium
Cargo terminal operators	Generally investor-owned or vertically integrated with airlines	Medium
Airports	Auckland: NZX-listed company (22.4% Auckland Council) Christchurch: council-controlled trading organisation (75% Christchurch Council, 25% New Zealand Government) Wellington: private company (67% Infratil Limited (NZX-listed company), 33% Wellington City Council)	Medium

Source: Company websites; NZX Company Research database; New Zealand Institute of Economic Research (2010a); Productivity Commission.

Of particular interest in the context of this section are those components where ownership dynamism is low, competition is muted, or because regulatory constraints or political preference inhibit change. These components are seaports, airports and rail, which are explored below. Some issues relating to road transport are covered in Chapter 13.

10.2.3 Improving governance through private capital participation

State-owned firms acquire their equity capital through political and administrative processes rather than private capital markets. Their engagement with debt markets may also be limited relative to similar private-sector enterprises and can be distorted by the implicit guarantee that public ownership can entail (Evans, 2011). This restricted engagement in capital markets, together with other constraints associated with public ownership, can limit the ability of state-owned firms to achieve efficiency gains.

In a comprehensive review of empirical studies of privatisations, Megginson and Netter found:

We know that privatisation “works” in the sense that divested firms *almost always* become more efficient, more profitable, and financially healthier, and increase their capital investment spending. [Emphasis added]

Megginson and Netter (2011, p.381)

Their review covered dozens of empirical studies and, in total, thousands of privatisations.¹³³ The important qualification is ‘almost always’ – while the evidence is statistically overwhelming, it is not a guarantee that every privatisation will have these outcomes.¹³⁴

Importantly, for privatisation to result in successful outcomes the goals of the privatisation need to be clear; required regulatory regime should be in place before privatisation occurs; and the privatisation process needs to be well run. Further, privatisation is most likely to be successful where the case for public ownership is inherently weak or non-existent.

Some reasons why firms in private ownership tend to outperform those in public ownership are presented in Box 10.3.

¹³³ For a review of other empirical studies of privatisations, see Huang, Watson and Chen (2011). They report similar conclusions.

¹³⁴ See Quiggin (1995) for some case studies of unsuccessful (or otherwise problematic) privatisations.

Box 10.3 Reasons why firms in private ownership can outperform those in public ownership

Publicly owned enterprises do not face the same market scrutiny as listed companies (Crown Ownership Monitoring Unit, 2010). They lack a share price – which is a very useful monitor of the views of both current and potential investors as to the value of the enterprise. As investors have to commit real money to purchase shares (and risk losing it should the share price fall), they are strongly incentivised to closely monitor the company's performance. The observable share price represents the collective view of investors – with their own money at risk – as to the future value of the firm. This valuable monitoring device is unavailable to publicly owned firms, whose typical best option is infrequent assessments by individuals and groups with no personal assets at risk.

Additional owners may contribute more than just capital – they can bring experience and monitoring. An experienced 'cornerstone' investor can be particularly valuable to a business if their shareholding leads to improved governance.

Two commonly used mechanisms to encourage efficiency in investor-owned firms are generally unavailable to publicly owned firms:

- The 'market for corporate control' refers to the disciplining effect of being a potential takeover target (Manne, 1965). One way in which professional investors can make money is to buy into poorly run companies with significant potential, and, having obtained control, replace the board and managers with better performers. Knowing this possibility, managers have an incentive to perform when there is a risk of an ownership change leading to a management change. Over time good boards 'eat' bad boards, thus incentivising bad boards to improve their performance.
- 'High-powered incentives' are various forms of incentive pay (such as stock options) whose value is directly dependent on returns to shareholders, in an attempt to align the interests of managers and shareholders.¹³⁵ These have limited applicability to publicly owned enterprises that lack market-priced shares.

The Commission recognises that there is a wide range of views about public ownership of certain assets in the New Zealand community. Ravensdown submitted:

Despite our reservations on how ports are being used by their local government owners, Ravensdown would be even more concerned to see the ports sold off or their operations delegated to commercial businesses. This very nearly occurred in 2006 when the Christchurch City Council tried [to] sell half of the Port of Lyttelton and the management contract to Hong Kong company, Hutchinson's. We believe this would have left captive port users very vulnerable.

Ravensdown Fertiliser Co-operative Ltd, sub. 3, p. 2

Ravensdown identifies a particular risk associated with the monopoly provision of port services, and contends that this risk would be exacerbated by private ownership. Monopoly issues are explored further in Box 10.4.

Box 10.4 Private vs. public ownership of monopolies

If a business has monopoly characteristics, private ownership carries two risks: monopoly pricing and operational inefficiency.

Monopoly pricing can lead to a transfer of wealth from consumers to suppliers, and to the under-supply of the product or service in question.

¹³⁵ If these incentives are poorly designed, managers may be incentivised to act in ways that work against the interest of shareholders. It has been argued that poorly designed incentive schemes in financial institutions contributed to the Global Financial Crisis.

The distributional and efficiency consequences of the monopoly pricing problem could be mitigated under public ownership if any excess profits gained from overcharging customers are returned to the collective owners. This assumes that there is significant overlap between those customers and the owners. Should the overlap be small (as might be expected for components of the international freight supply chain), the (public) owners typically face the same incentives to charge monopoly prices.

Increasing supply to an efficient level may require economic regulation – for example, to set and enforce a maximum price. The Treasury argues that the quality of the regulatory framework in which the business operates is a far more important factor than the identities of owners. While a well designed and enforced economic regulatory framework can prevent monopoly pricing, a poorly designed one can lead to poor customer service and reduced levels of investment and innovation.

Arguably the operational inefficiency problem is worse in public ownership – as publicly owned monopolies face weaker incentives to reduce costs and/or improve service provision.

These risks need to be carefully evaluated when considering privatisation of monopoly providers.

Source: The Treasury (2010); Productivity Commission

Other arguments have been made against privatisation. While some of these are very general in nature and rather weak in the Commission's view (Box 10.5), others are stronger (Box 10.6). An owner considering privatisation of a business should carefully consider all of these arguments and make an appropriate determination as to their relevance to the business under consideration.

Box 10.5 Weaker arguments against privatisation

Some of the arguments voiced against privatisation may reflect a lack of knowledge about how financial markets work in practice. For example:

- 'Selling off future profits.' This assumes that future profits and the sale price are unrelated. In actual fact, the sale price will be determined by the expected future profit stream. If potential buyers conclude that the company will be more efficient and profitable in private ownership, then the sale price should exceed the expected value of the profit stream in public ownership. When sold into a competitive market, the seller should realise the benefits from an efficiency improvement that would not have been achieved under their ownership.
- 'Assets sold are lost forever.' It is hard to see just what is being 'lost' in the sale of an immobile asset such as a port or airport. The proceeds of the sale are not 'lost', and they can be applied to further worthwhile purposes, including the purchase of other assets or repayment of debt. Ultimately it is the service that matters, not the asset.
- 'Privatisation inevitably leads to foreign ownership...' There is nothing inevitable about foreign ownership – and it can change over time. For example, while Telecom New Zealand was initially sold to two US-based companies in 1990, it was subsequently listed on the NZX and today is majority owned by New Zealand-based interests.
- '...and profits going offshore'. The future profits are received in the sale price (first point), and those sale proceeds are received in New Zealand.
- 'As a public authority can borrow at cheaper rates than a commercial enterprise, a lower cost of capital for publicly owned enterprises can translate to lower prices for consumers.' This assumes

that the authority's overall cost of borrowing is unchanged as a result of borrowing to fund its (relatively more risky) commercial enterprises. Even a very small increase in borrowing costs for the authority's debt portfolio might be very costly for the community as a whole; however, only a tiny fraction of this cost would be borne by the risky enterprise itself.¹³⁶

Source: NZX Company Research database; Productivity Commission

Box 10.6 Stronger arguments against privatisation

Private ownership may not be the best way to deliver many services valued by the community. Privatisation of a publicly owned business may not be efficient in cases where:

- 'Public goods' are being provided. Public goods, in this context, are those that satisfy two criteria: they are non-rival (ie, one person's use of the good does not impair others' use) and non-excludable (ie, it is not practical to exclude people who do not pay from using the good). Examples include national defence, basic scientific research and national parks. These factors lead to the under-provision of public goods by private firms. An efficient solution may be for government to set the level of provision and contract private firms to supply them.
- The risk of corporate failure remains with the seller even after privatisation,¹³⁷ and the seller cannot find a better way to remove that risk (eg, the regulatory regime for banks).
- The business is linked to another activity that should stay in public ownership, and the transaction costs of a separated model are too high. A specific case of this would be where there are large potential benefits from the coordination of future activities, and there is no more efficient mechanism to provide that coordination.
- There is an inadequate regulatory framework for the sector in which the business operates, and the costs or difficulties of setting up or improving the framework exceed the benefits of privatisation.
- The seller does not have ability to conduct the privatisation process (eg, lack of capability or the potential for corruption).
- The public owner has specific non-commercial objectives, and ownership is the most efficient way to ensure the achievement of those objectives.
- Ownership of a business is required for a strategic purpose concerning a particular asset. 'Strategic purpose' in this sense involves blocking a competitor's access, or ensuring access where a rival owner might choose to block it. Such situations can arise between competitive firms concerning the ownership of patents for key technologies.

Partial privatisation and financial performance

'Partial privatisation' or 'mixed ownership' is selling a proportion of a government enterprise while retaining substantial government control. The literature on the performance benefits of partial privatisation is more mixed than the clear results reported for full privatisation. Summarising the literature, Huang, Watson and Chen (2011) noted that studies of the effects of partial privatisation are scant and their results mixed.

¹³⁶ This argument applies directly to the equity invested by councils in their enterprises. Publicly owned commercial enterprises generally conduct their own commercial borrowing. To the extent that owners provide an implicit guarantee of such borrowing (eg, because lenders assume that the owner would never let the enterprise fail), lending risk is transferred from the enterprise back to the owner. This scenario has the same implications as those outlined in the box.

¹³⁷ IPENZ describe such organisations as a 'too big to fail' (sub. 25, p. 3).

In sum, although the empirical and theoretical evidence is far from comprehensive or conclusive, there are reasons to believe that [static] efficiency gains may accrue from partial privatisation even where the Crown retains a controlling interest...

The existing literature does not consider in depth whether dynamic efficiency gains would necessarily accrue to a partially privatised entity in which the state retains control. It may be, however, that the same theoretical basis exists for believing that some dynamic efficiency gains may be realized (if not to the same degree as for full privatisation) as for static efficiency gains. That is, improved monitoring and access to external capital may improve management willingness and ability to generate dynamic efficiency gains.

Huang, Watson and Chen, 2011, pp.12-14

However, Huang, Watson and Chen (2011) also note that many of the studies of full privatisation they reviewed also included many companies in which governments retained significant ownership or control stakes. This suggests that the reported conclusions for full privatisations may also extend to partial privatisations.

Stock market listing

One option for public owners seeking to improve governance is to opt out of the relevant public sector governance regime and into the stock exchange regime.¹³⁸ This has the advantage that the governance arrangements for a listed company will apply. While those arrangements can never be perfect, they are subject to strong, and ongoing, scrutiny and pressure for improvement – stronger than that applying in public-sector regimes.

Listed companies benefit from observable share prices that react to information about market conditions and the perceived quality of directors, managers and any plans they announce. Stock exchange rules such as those requiring regular reporting and continuous disclosure can expose poorly performing managers, and pressure from minority shareholders and external analysts can spur the timely rectification of such problems.

A significant proportion of stock needs to be privately held and actively traded for stock-exchange mechanisms to work well in encouraging good governance. While this is probably the case for Tauranga (45%), it is less likely to be so for the Lyttelton Port Company (6%). At low levels of private ownership stocks tend to be traded infrequently and the company may only attract interest from relatively passive shareholders.

External analysts are unlikely to cover a company unless the market capitalisation of traded shares meets certain thresholds. Stock exchange listing also has some high fixed costs.

Christchurch City Holdings (CCHL – the main shareholder in Lyttelton Port Company) contends that listed company status is not the only way of ensuring efficiency. It highlights some disadvantages of their current arrangements:

Stock Exchange listing adds a significant additional expense to the operation of the company because of need for continuous disclosure.

A hybrid listed company with a majority stable single owner limits the degree to which the company can be accountable to the major shareholder because of the NZX rules which limit information flow to what is provided to all shareholders. This mixed model is not automatically a panacea.

Christchurch City Holdings Limited, sub. DR82, pp. 2-3

Other studies on the NZX's continuous disclosure rules have found positive effects on information flows (eg, Huang, Marsden and Poskitt, 2006). CCHL's experience may be specific to Lyttelton Port Company, resulting from its low level of private ownership.

These factors mean that a decision to list is less clear for smaller ports and airports. These companies will need to offer a relatively large proportion of their stock to make listing worthwhile, which may be incompatible with continuing majority council ownership.

¹³⁸ This option is not practical for small companies, as noted by PrimePort Timaru (sub. 68, p. 4).

S.13 of the Port Companies Act and s.71A of the Local Government Act specify changes to the governance regimes that apply to council-owned port and airport companies following stock exchange listing, including exempting the listed companies from the statement of corporate intent process. These exemptions should reduce costs, and offset listing costs to some extent.

While there are advantages to a stock exchange listing in terms of transparency and a formal framework of accountability, a cornerstone private shareholder may be more appropriate depending on the objectives for bringing in private capital.

F10.6

Public owners seeking to improve governance can opt out of the relevant public-sector governance regime and into the stock exchange regime. A stock market listing offers potential governance improvements for larger companies with partial council ownership. These benefits arise from an observable share price, reporting and continuous disclosure rules, and external analysis of management decisions.

Increased private ownership of ports

Five New Zealand ports have some degree of private (non-council, non-port company) ownership. The Shippers' Council submitted that more extensive use should be made of partial privatisation:¹³⁹

With regard to port reform, we believe that local authorities should be encouraged to partially sell down their holdings in port companies, to at least the level of Port of Tauranga (55%). Partial privatisation should dilute the influence of parochialism and other political considerations and help make ports more commercially focused, while retaining majority local and public ownership.

New Zealand Shippers' Council, sub. 43, p. 7

In the Commission's conversations with port managers and others from around the country, it was clear that they generally consider Port of Tauranga to be the nation's best-performing port. Tauranga's better performance was attributed to three factors:

- ownership structure (an NZX-listed firm with a substantial private shareholding);
- owner behaviour (Bay of Plenty Regional Council treating the port as a financial asset rather than an asset to control); and
- business model (emphasising contestability between service providers within the port).

The Commission's view is that these three factors are likely to be linked, a view supported by submissions. For example:

It is perhaps no coincidence that New Zealand's best performing port (Port of Tauranga) is also the port with the highest proportion of private ownership (45%).

Federated Farmers, sub. 27, p. 7

It is very likely that the contestability in services provided and the high level of private ownership at the Port of Tauranga has contributed greatly to its performance, relative to other ports. Most of the smaller ports that have limited or no competition for services provided at the port have had low productivity and limited growth in the volume of cargo.

ISO, sub. 28, p. 14

Marstel agrees that ownership structure of Ports of Auckland may result in a danger that local authorities may not act in the ports best business interests when weighing up competing funding requirements for the region. A more transparent ownership structure with some private investment could act as an additional check on the investment and funding decision making for the port. Public

¹³⁹ The New Zealand Chambers of Commerce similarly recommends "initiatives to sell down 100% local authority owned entities such as ports, and that where possible at least 49% shareholding should be floated as tradable stock for each entity" (sub. DR64, p. 2). "A controlled sell down of 100% local authority owned assets, like Ports of Auckland, would help enable faster delivery of critical infrastructure, as well as create the opportunity for New Zealanders to have some shared ownership (and direct participation) in securing our economic prospects" (p. 17).

private ownership as with Port of Tauranga is clearly a better model than 100% council ownership as with Ports of Auckland.

Marstel Terminals, sub. 30, p. 6

While each port can provide specific reasons why their performance differs from the Port of Tauranga, it is clear that none of the other ports is actively engaged in emulating all key aspects of Tauranga's model.

Auckland Council (owner of Ports of Auckland) offered a different view:

The evidence from New Zealand and internationally does not suggest that private ownership will of itself increase operational efficiency of ports in New Zealand... Public ownership with commercially focused boards is an efficient operating model for ports in New Zealand

Auckland Council, sub. 53, p. 2

The international empirical studies considered by the Commission were either equivocal, or found that increased port performance was associated with increased private ownership (Box 10.7). There are no grounds to believe that ports in general, or New Zealand ports in particular, should be treated as a special case. The case presented by Auckland Council (sub. DR60, pp. 7-8) relies heavily on a study by the New Zealand Institute for Economic Research. The NZIER study, however, supports increased private ownership to encourage improvements in efficiency and more competitive and commercial pricing. It recommends that government should:

...require local authorities to divest their shares in port companies to reduce the extent to which parochial interests inhibit the introduction of more efficient operational procedures and efficiency-improving rationalisations between ports.

New Zealand Institute for Economic Research (2010a, p.ii)

Box 10.7 International empirical studies on port privatisation and performance

In the case of British ports we fail to identify ownership as a significant factor of production and the evidence does not establish a clear-cut pattern of efficiency in favour of one or other type of ownership.

Liu, 1995 (p.273)

The most efficient ownership structure [for a group of 21 international ports] is indicated to be joint [public/private], followed by private ports... and lastly publicly owned ports...

Valentine and Gray (2000, p.9)

...some support exists for the claim that the transformation of ownership [of major container terminals in Asia] from public to private sector improves economic efficiency.

Cullinane, Song and Gray (2002, p.743)

Results [of a study of Korean container terminals] are consistent and suggest (1) the degree of private sector involvement is positively related to productive efficiency and (2) improved productive efficiency has followed the implementation of privatization and deregulation policies in Korea.

Cullinane and Song (2003, p.251)

Based on a sample of selected container terminals from around the world, the results of this study have shown that private sector participation in the port industry to some extent can improve port operation efficiency, which will in turn increase port competitiveness.

Tongzon and Heng (2005, p.405)

This paper [rejects] the hypothesis that greater private sector involvement in the container port sector irrevocably leads to improved efficiency.

Cullinane, Ji and Wang (2005, p.433)

High levels of technical efficiency [in container ports] are associated with scale, greater private-sector participation and with transshipment as opposed to gateway ports.

Cullinane, Wang, Song and Ji (2006, p.354)

We constructed a panel data for port ownership, corporate structure, and port inputs and outputs for 98 major world ports, and we implemented the Malmquist Productivity Index model... The results indicate that ownership restructuring contributed to total factor productivity gains.

Cheon, Dowall and Song (2010, p.546)

A pertinent question to ask is: what has the Bay of Plenty community lost through having New Zealand's best-performing port in their region? What have they gained? To the extent that the Port of Tauranga ownership model has led to better financial performance, then the ratepayers of that community have benefited through lower rates or higher-quality council services. To the extent that the ownership model has driven efficiencies at the port, attracting increasing volumes of freight, then the regional economy has gained.

The Commission finds the evidence and theoretical arguments suggesting increased performance from increased private ownership of ports to be generally convincing. It emphasises, however, that a decision by any owner to choose this method to improve governance, or simply to raise capital, should follow a thorough consideration of the issues and choices outlined in this section. In particular the decision makers should distinguish between commercial and non-commercial objectives, and design the governance arrangements to achieve the best balance between them.

Can a robust firewall substitute for private capital involvement?

The Auckland Council has submitted that its structural arrangements allow it to gain the full commercial benefits of a robust firewall, *and* the coordination benefits of better integration of the port operations with the council's other goals:

The Council's holding company Auckland Council Investments Limited (ACIL), successfully mitigates political influence on POAL's operations, which allows the port to run on a commercial basis.

Auckland Council, sub. DR60, p. 2

...the new council governance structure provides an opportunity to better integrate council activities, POAL operations, transport infrastructure, land use planning and spatial planning. The governance arrangements of the Auckland Council and full ownership of POAL enables the two entities to coordinate and take strategic and investment decisions that will be of benefit to the whole region. This balance is the best way of achieving an efficient port which is well integrated with the city.

Auckland Council, sub. 53, p. 7

Land use and spatial planning are legitimate activities of council, and may thus act as a constraint or enabler of the commercial goals of all companies operating within the council's geographic boundary. For a port company operating on fully commercial basis, 'integration' with wider council objectives would only be pursued when it is also the best commercial option available to the company. For the council to insist otherwise would be application of political influence.

A 'balance' between just enough commercial focus and just enough political influence has two potential problems:

- Productivity improvements and better financial returns may be forgone.
- The boundaries of 'just enough' political influence will be unclear and thus contested on an ongoing basis – creating political costs for the council.

The real questions here are:

- Where is the benefit from ownership coming from?

- Given other council powers to regulate, what does ownership enable a council to do that they could not do anyway?
- Do these benefits outweigh the political and productivity costs?

These are important questions for council owners to consider, and this section seeks to assist their careful consideration.

10.2.4 Local government ownership and control of seaports

Submissions from councils emphasise their rights to control ports through ownership, as can be seen in Box 10.8. However, there are different practices across the port industry, and some port-owning councils place more emphasis on their financial interest (Ministry of Transport, sub. DR58).

Box 10.8 Local government views on ownership

Auckland Council

We believe strongly in the benefit of the continued public ownership of POAL [Ports of Auckland Limited]. The governance arrangements now in place effectively separate operational and governance decisions, with [Auckland Council Investments Limited] acting as the shareholder. This allows the efficient operation of the port business and the effective integration of the port's activities with the growth and development of the city... The current governance model is well suited to meeting the need of generating fair commercial returns without exploiting any potential market power that may exist within the port sector. (sub. 53, p. 1)

Ports are not isolated entities. They operate within a wider city environment with various supporting networks and challenges. We see the Port and the City as part of the same ecosystem, both interdependent. Given this, we believe that the best outcomes for POAL and Auckland will come from optimising the synergy between these institutions and that this optimisation is most efficient with full ownership of the Port. (sub. DR60, p. 5)

Environment Southland

Ports and airports removed from community control lend themselves to "gate keeper" or "highway robber" roles in the economy. They provide the owner control of an essential monopoly with the power to tax the economy dependent on the services of the Port...

The community of Southland holds community ownership of these assets in very high regard. The strong ethic of community ownership recognises the significant indirect economic values that this report fails to recognise. The port was built using community money. The fact that community ownership is not as coherently represented in the market as private investment is, does not mean that it holds any lesser rights. Council also owns its share as a majority holding in a publicly listed entity. This provides the accountabilities that go with public listing but also retains a majority control representing the regional community's interest in the port. (sub. 4, pp. 1-2)

Greater Wellington Regional Council

...Greater Wellington strongly believes that simply focussing on a pure financial return ignores other strategic reasons for holding the asset. Both as an operational port and a key piece of regional real estate, the Port is a significant regional asset. Maintaining a commercially viable port is considered crucial to the economic outcomes of the region.

The Port is a significant hub for both freight and passengers that are integral to the region's overall wellbeing. Greater Wellington believes the Port is a natural monopoly that could mean monopoly profits to the owner at the expense of regional benefit if the Port was to be fully put into private ownership.

Access to the real estate for the community is considered important to the overall wellbeing of the region. Greater Wellington believes this is better achieved through the current ownership structure. (sub. DR59, p. 5)

Christchurch City Holdings Limited

Ownership by local government does not need to be an inhibitor of good governance and effective commercial operation. In fact, used correctly, it can provide the right balance between long and short term objectives.

The report needs to be significantly moderated to acknowledge that there are good models available without the need for ownership change. (sub. DR82, p. 4)

Other participants offered their views on local government ownership of ports (Box 10.9), many of which emphasise disadvantages of local government ownership.

Box 10.9 Other participants' views on local government ownership*New Zealand Shippers' Council*

During the 2000s there was a trend of diminishing private sector investment in port companies (most evident in the removal of Ports of Auckland from the stock exchange and reversion to 100% local authority ownership). This has been coupled by what appears to have been a reduced appetite from port companies' local authority owners to demand significant efficiency and productivity gains. The reason for this lack of appetite is likely to be political rather than economic.

As a result, port companies seem prepared to concede a lower level of performance (and ultimately returns on their investments) in return for:

- keeping port operations in the council's geographic area (ie, resisting rationalisation);
- strengthening or retaining local authority control (eg, Ports of Auckland example above, and the abortive deal for Hong Kong based Hutchison Port Holdings to operate Lyttelton Port operations);
- preserving industrial harmony; or
- containing capital investment levels to ensure a consistent dividend flow to council controlled entities to support general council spending. (sub. 43, p. 5)

Port of Tauranga

There is evidence of local authority ownership having previously inhibited port rationalisation. (sub. 37, p. 4)

Employers' and Manufacturers' Association

We believe that 100% local authority ownership is detrimental to good commercial investment decision making and that where possible at least 49% shareholding should be floated as tradable stock for each port...

Changing the ownership structures would engender cultural and efficiency changes and add to the competitive forces. (sub. 7, pp. 6-7)

Democrats for Social Credit

...it is proper that natural monopolies be owned by a democratic state, where all citizens benefit – in social as well as dollar dividends. By way of example, ratepayers in Hawkes Bay Regional Council area were told how their rates would have been higher had it not been for HBRC major ownership of the Port of Napier Ltd. What Democrats for Social Credit strongly object to is the way those benefits are generously shared with private (usually overseas) investors, be they pension funds, banks or insurance companies. We maintain that our ports and the public infrastructures supporting them must be publicly owned... (sub. 26, p. 1)

Local Government Forum

...improved governance arrangements that focus ports on a single, commercial objective, and remove conflicts of interest are necessary... However, we have very little confidence that such arrangements would long persist, should it be possible to establish them in the first place. The political incentives to use ports for non-commercial purposes in a non-transparent manner will remain, and future opportunities to do this will arise. The introduction of private capital could bring greater stability to the focus of the ports on a commercial objective, but full privatisation should also be considered. (sub. DR72, pp. 1-2)

ISO Limited

There is nothing in the current legislative arrangements (including the Local Government Act and the Port Companies Act) to provide sufficient commercial discipline on publicly owned ports, creating problems for rate payer communities to be confident that their port managers face enough commercial discipline to seek efficiencies. (sub. DR83, p. 1)

It is apparent from submissions that local authorities may desire control for many reasons, including to:

- balance the financial benefits of owning the port against regional economic development objectives;
- resist control from outside the region, which conceivably might include closure of an uneconomic port (or a reduction in the scope of activities at such a port);
- avoid or reduce monopoly pricing (that presumably would be applied by others in control of the company); and
- balance the financial benefits of owning the port against other amenity values of the port's location and surrounds.

The exercise of control in the pursuit of any of these reasons may come at the cost of reduced financial returns from the port. For example, the allocation of port land to public amenity will, in general, reduce the land available for port operations. Supplying freight services using a smaller land area may require increased labour and/or more expensive equipment – increasing the port's costs.

Externalities

Council control via ownership should not be required for the general prevention of activities by ports that adversely affect ratepayers or the local environment. Councils already have substantial powers to prevent actions within their territory through their regulatory powers over land use and resource consents. However, the Lyttelton/Mt Herbert Community Board contends that despite such regulatory powers, their community is subject to adverse effects from port operations. They believe that these effects are not mitigated by the fact that Christchurch Council owns 79% of the Lyttelton Port Company:

In the experience of the [Community] Board it is impossible to persuade Lyttelton Port Company to make any decision which its managers see as inconsistent with its short or long term operational efficiency.

Lyttelton/Mt Herbert Community Board, sub. 16, p. 2

Regional economic development

The pursuit of regional economic development can be a negative-sum game, in which regions compete through paying to 'attract' enterprises away from locations in which they would otherwise be most efficiently located. This risk highlights the importance of transparency and accountability around such activity.

Many local authorities' shareholders view their port shareholding as a long term strategic investment assisting regional economic development.

Port of Napier, sub. 10, p. 8

Further, the pursuit of regional economic development via port ownership raises two important questions:

1. Could regional economic development be more efficiently achieved through other means?
2. Do the benefits to regional economic development outweigh the costs of port ownership (including the opportunity cost of capital tied up in port assets)?

It is impossible to answer these questions without transparency around exactly what benefits are accruing to the regional economy and how much these benefits cost.

There is a significant risk that councils are ‘purchasing’ regional economic development – perhaps with large amounts of money – in a way not captured by financial statements of the port or the council. Such ‘purchases’ do not meet expected standards of public sector procurement. If owners want ports to take actions that are not in the commercial interests of the port, then it is important to maximise the transparency around these transactions.

What is the optimal level of control?

This section highlights the need for councils to be clear about the objectives they wish to pursue through port ownership. Having decided those objectives, they should choose the minimum level of council ownership that offers the required control rights.

It is ultimately up to individual councils to determine their objectives for local seaports. As highlighted elsewhere in this chapter, private capital participation is positively associated with higher financial performance and improved dynamic efficiency. This suggests that decisions about the level of council shareholdings need to be made with full awareness of inherent trade-offs.

A bigger question [about council port shareholdings] could be whether more shareholder value could be derived from a wider public/private shareholding mix.

Port of Napier, sub. 10, p. 8

Different levels of ownership provide different control rights. Some of the key relationships are listed in Table 10.4. It is apparent from this table that the desirable level of shareholding for a particular owner is determined by exactly what it is that they wish to control.

Table 10.4 Control rights available at different levels of company ownership

% ownership	Act	Significance
100%		Full control
90%	Takeovers Code	The owner of 90% of shares can initiate compulsory acquisition of remaining shares.
75%	Companies Act	Shareholder support required to pass a special resolution. Special resolutions are required to make changes to the company’s constitution, and to approve major transactions (those involving more than half the company’s assets).
>50%	Companies Act	Unilateral ability to appoint or remove a director.
>50%		Unilateral ability to pass any normal resolution.
50%	Local Government Act	50% or more ownership by one or more local authorities makes that organisation (excluding a port) a <i>council-controlled organisation</i> .
50%		A 50% shareholder can unilaterally block any normal resolution.
<50%	Port Companies Act	A port company with <50% ownership by local authorities can request the Minister to exempt them from specific responsibilities (associated with public ownership) specified in the Act.

% ownership	Act	Significance
<49%	Port Companies Act	A port company with <49% ownership by local authorities can request the Minister to exempt them from preparing a statement of intent as specified in the Act.
>40%	Takeovers Code	A shareholder with more than 40% of shares can generally prevent another shareholder increasing their shareholding above 20%.
25%	Companies Act	25% control allows a shareholder to veto a special resolution, including major transactions by the company; ie, the acquisition or disposal of assets whose value is more than half of the company's existing assets.
25%	Overseas Investment Act	25% or more ownership or control by an 'overseas person' requires Ministerial approval under the Act.
20%	Takeovers Code	A shareholder wanting to increase their shareholding beyond 20% must launch a takeover bid and gain the agreement of remaining shareholders.
10%	Takeovers Code	A shareholder with 10% or more of shares can prevent compulsory acquisition of a company by the majority shareholder
5%	Companies Act	Shareholder support required to call a special meeting.

Notes:

1. Some of these limits may be different if specified in the company's constitution.
2. This table assumes a 1:1 relationship between ownership and control rights. Some companies have multiple share types (eg, non-voting shares) or other arrangements which can affect these limits.

Table 10.5 presents the interactions between the reasons for council control of ports identified above and the control right levels identified in Table 10.4.

Table 10.5 Control levels required for specific reasons

Aim	Control level required	Control level requirements
Brake on monopoly pricing	50-100%	<p>Given that minority shareholders might reasonably insist that a port set its pricing to maximise its profits, a council would require 100% ownership to insist on lower prices. The ability to appoint and remove directors does, however, allow councils with 50% control some (albeit indirect) influence over issues such as pricing.</p> <p>It should be noted that the exercise of monopoly power may also be limited by one or more of: countervailing power of shipping lines; competition from other ports; Part 2 of the Commerce Act; and the threat of potential price regulation under Part 4 of that Act.</p>
Optimise financial vs. amenity values	various	<p>To the degree that community amenity and port financial performance are in conflict, some transfer of value is required to achieve the trade-off. How this operates at different control levels is:</p> <p>100% – the council can make such trade-offs in a non-transparent way by directing the port company to undertake a particular action while accepting a lower financial return from the port (to the extent that this is consistent with the port being a 'successful business' under the Port Companies Act).</p> <p>>50% – the council can make the trade-off in a transparent way by directing the port company to undertake a particular action <i>and</i> providing direct compensation for any financial costs. (In effect, the council is procuring the wider benefits.)</p> <p><50% – the council can only make the trade-off <i>with the agreement</i> of the port company, and paying compensation (presumably with a sufficient premium to make the deal attractive).</p>

Aim	Control level required	Control level requirements
Optimise financial vs. regional economic development	various	The same considerations apply as for the previous case. In many cases the council has the alternative of directly subsidising importers and exporters to achieve the same aim without any control of the port. (This is another, and arguably more transparent, way of procuring the desired benefits.) 25% control would permit the council to veto major transactions by the company, ie, the acquisition or disposal of assets whose value is more than half of the company's existing assets.
Resist control from outside the region	>40%	The Takeovers Code means that a shareholder can be prevented from gaining more than 20% ownership by a simple majority of other shareholders. 40% ownership would be a near guarantee of such veto power. The constitution of a port company could embody mechanisms that restrict the identity and control rights of non-council shareholders.

Notes:

1. The specific details above may change if the port company is listed on the NZX.
2. The distribution of shares not held by the primary owner will also affect this analysis. For example, if the share ownership is dispersed (ie, many shareholders, none of whom have a significant stake), then control might be achieved at much lower levels than indicated in this table.

The optimum level of council ownership will depend on the priorities assigned to particular aims by local communities. Full ownership comes with risks of non-transparent actions by councils with consequent risks for ratepayers. On the other hand, 100% private ownership may expose local community to risks they would prefer not to take. Effective veto power over non-local control can be provided with around 40% ownership.

For other community control aims, some other possibilities are highlighted:

- For a community that wants to maximise commercial returns from their port, an ownership level below 50% is preferable. This allows other shareholders (presumably motivated by commercial gain as their own funds are at stake) to appoint and remove directors.
- For a community that wants to avoid the risk of potential negative consequences of control from outside the region, an ownership level above 40% is indicated.
- For a community that wants the ability to dictate particular non-commercial activities by the port, an ownership level above 50% is indicated.
- For a community that wants transparency and accountability around actions by their council representatives, an ownership level below 100% is required, and ideally one below 50%.
- For a community that wants veto power over major asset transactions by the port company, an ownership level above 25% is indicated.

R10.6

Councils should be clear about the objectives they wish to pursue through port ownership. Having decided those objectives, they should choose the minimum level of council ownership that offers the required control rights. Increased private capital participation offers improved incentives for port efficiency, and the dynamic efficiency of the freight system in general.

Maintaining control with a lower proportion of ownership

The control aims of councils could potentially be achieved at lower proportions of ownership with the use of one of several mechanisms:

- the issue of non-voting shares;

- restrictions on the identity of shareholders and/or the size of their shareholdings;¹⁴⁰ or
- provisions in company constitutions to provide council control over specific decisions.

The latter two mechanisms are often implemented via 'golden shares' or 'Kiwi shares'.

However, such mechanisms come at a cost. Shares with no (or reduced) control or transfer rights are typically valued at a lower price by potential purchasers, thus reducing potential sale proceeds for the original owner. And there are inherent governance problems in structures with differing allocations of control and ownership rights. Such structures have the potential to create agency costs that are an order of magnitude higher than structures in which control and ownership are aligned (Bebchuk, Kraakman and Triantis, 2000).

Councils should carefully weigh up the full costs and benefits of any disconnection between control and other ownership rights.

Landlord port models

Other models of port ownership are commonly found overseas. One popular model is the 'landlord' model in which port land and some common infrastructure remains in public ownership, with long-term leases of port areas to one or more privately owned terminal operators (Box 10.10). The larger Australian ports, for example, typically have three competing terminal operators.

The landlord model is often seen as having two distinct advantages.

First, by introducing competition between terminal operators, the model can be used to drive innovation and efficiency in the provision of port services (Cheon, Dowall and Song, 2010). This will ultimately result in better returns for port owners and lower shipping prices for importers and exporters.

Second, because ownership of the land remains with the port company, councils retain ultimate control over that land. This means they avoid the perceived risks associated with external ownership while enjoying the benefits that come with competition and involvement from the private sector.

Box 10.10 Port privatisation in Queensland

The model adopted in Queensland demonstrates an alternative approach to the partial privatisation of an existing publicly owned enterprise. It involves separating government-owned enterprises into parts:

- commercial assets (ie, those generating a commercial return, and with no demonstrable market or policy failure requiring continued government ownership); and
- other (non-commercial) assets.

The Queensland Government approach has been to fully divest such commercial assets (eg, port terminal operations) while retaining 100% ownership of the non-commercial assets (eg, port land).

Source: Noon (2011)

It has been pointed out to the inquiry that councils may have a legitimate interest in the large blocks of central city waterfront land currently used for port operations. Concerns about private ownership of the port presumably extend to issues not amenable to resolution via local government zoning power and the RMA.

Council ownership of both the port land and operations is not necessarily the most efficient way to deal with these concerns. It may be more efficient to split the land from the port operations as per the landlord port model described above, and then choose the most appropriate ownership model for each part.

¹⁴⁰ For example, there may concerns about large ownership stakes by a major customer, supplier or competitor.

Landlord models were supported by some inquiry participants:

...competitive markets generally do a good job in generating efficient outcomes and stimulating productivity improvements and that the 'landlord' model would thus improve the level of contestability between terminal operators and in turn improve price and service for port customers.

Tainui Group Holdings Limited, sub. DR62, p. 3

Whereas other participants identified some drawbacks:

...while the landlord model is typically used offshore, its effectiveness may be limited in New Zealand, due to a lack of scale and the fact that current ownership and operational arrangements essentially provide port management with full operational responsibility and clear performance targets, including profitability.

Auckland Council, sub. DR60, p. 8

This form of structural separation does involve both transitional costs and ongoing coordination costs. The costs and benefits of this approach would need to be carefully considered.

R10.7

Councils should consider landlord port models in which land ownership is separated from terminal operations. This may be an efficient mechanism for maintaining control over port land use while benefiting from the efficiency improvements resulting from increased private involvement in port operations.

10.2.5 Ownership of airports

Auckland and Wellington City Councils have minority stakes in their international airports (22.55% and 34% respectively). Auckland Airport is listed directly on the New Zealand Stock Exchange, and Wellington is subject to the exchange requirements through its debt listing and the listing of Infratil, its majority owner. Christchurch Airport is 75% owned by Christchurch Council and 25% by central government.

The issues discussed in this chapter in the context of seaports may also be applicable to airports – in particular to Christchurch Airport. However, the three airports are primarily in the business of providing passenger services and only a small proportion of international air freight goes through Christchurch and Wellington. While airport governance and ownership are important issues, they are peripheral to this inquiry and hence the Commission makes no recommendations.

10.2.6 Ownership of rail

A wide range of different ownership arrangements have been tried for New Zealand rail, without notable success in dealing with its underlying economic problems (Orr, 1981; New Zealand Institute for the Study of Competition and Regulation, 1999; Rail Development Group, 2008; Heatley, 2009). The arrangements tried include government-owned corporations (five instances), government departments (four instances), integrated private ownership (one instance), and vertically separated public/private ownership (one instance) (Heatley, 2009).

Following 15 years largely in private ownership, rail returned to full public ownership in 2008, and this arrangement is expected to continue for the foreseeable future (Heatley and Schwass, 2011).

Rail is often considered to be a natural monopoly; however, this categorisation is incomplete in that it ignores the market in which rail competes:

A lack of competition within the rail sector does not give a rail operator a natural monopoly. KiwiRail competes with other transport modes – with trucks and coastal shipping for freight, and with aeroplanes, buses and private cars for passengers. It is thus unhelpful to consider rail in New Zealand in terms of a natural monopoly.

Heatley and Schwass (2011, p.250)

An alternative view that rail is effectively a monopoly provider of certain public policy goals, including regional development, environmental sustainability and road safety (Clark, 2010).¹⁴¹ In Clark's view, the desire of government to pursue these public policy goals via the provision of rail services, combined with the fact that rail is not economically self-sustaining, creates the difficult policy challenge of paying a public subsidy to a monopoly provider. He argues that private ownership of such business (ie, subsidy-dependent monopoly providers) creates high risks for both the government and the business, and the least-costly arrangement is public ownership.

10.2.7 Legislative impediments to ownership changes

The current ownership arrangements for ports and airports appear to reflect the preferences of current owners, rather than any legislative impediments to change. For example:

The Mayor has given a strong signal in his 4 August report 'Mayor's high level direction setting for the Long Term Plan 2012-22' on the question of ownership of the port and airport, emphasising strong support for retaining Council's shares in the Ports of Auckland or Auckland International Airport.

Auckland Council, sub. 53, p. 7

Under the Local Government Act, a shareholding of any size in a port or airport company is automatically deemed to be a 'strategic asset'. The sale or purchase of such assets is subject to community consultation via a 'long-term plan' as specified in the Act. This provision increases transparency and creates better alignment between the (presumably) shorter-term interests of elected councillors and the (presumably) longer-term interest of ratepayers. However, it may also have the effect of dampening down trading activity in such shares, with potential dampening effects on dynamic efficiency.

Auckland Council (sub. 53) pointed out that these provisions do not appear to be a barrier to ownership changes, citing transactions by Auckland City, Auckland Regional and Manukau City Councils that proceeded under the current Act.

The Commission sees no reason why shares in ports and airport companies are automatically deemed to be strategic assets. Individual councils should make this decision based on their own particular circumstances, as they do for other asset types. On the other hand, community consultation over large transactions made by councils on the community's behalf is desirable. The Commission accepts Auckland Council's arguments that a legislative change would not materially improve the current situation.

10.2.8 Bottom line: ownership choices affect performance

Section 10.1 highlighted the importance of effective governance to the efficiency of publicly owned enterprises. While there are steps that can be taken to improve governance within current public ownership frameworks, there are natural limits to what can be achieved.

Councils (and the communities they represent) may legitimately have multiple objectives for the assets they choose to own. It is up to them to determine the relative importance of those objectives, and the most efficient way to achieve them. Increasing private ownership can bring increased transparency and accountability to the pursuit of those objectives.

Increased private ownership, on average and over time, leads to improved financial performance. Improved returns can be used to reduce rates or finance other community objectives. Councils should consider using a proportion of private ownership as a tool to improve governance, efficiency and financial returns.

¹⁴¹ Clark does not argue that rail is the most efficient (ie, lowest-cost) provider of these public policy goals. Instead rail is a monopoly provider of the political benefits associated with a commitment to those policy goals.

11 Regulation of international sea freight competition

This chapter investigates the effectiveness of New Zealand's current regulatory arrangements for the carriage of the country's exports and imports by international sea freight. It recommends removing competition law exemptions for price-fixing and capacity-limiting agreements between shipping lines. It also recommends retaining an exemption for other types of agreements.

Key points

- Collaboration agreements between international liner shipping companies have historically been exempt from domestic competition laws. Liner services operate to regular timetables and are largely confined today to container services.
- The policy rationale for these exemptions was that groups of carriers on a route needed an ability to fix prices and/or capacity and pool revenue to ensure reliable freight shipping services. The public benefits of the agreements were assumed so likely to outweigh any anti-competitive detriments that there should be no onus on carriers to prove that this was the case.
- New Zealand's current law adopts this approach, having automatic exemptions from the Commerce Act 1986 for all agreements between carriers concerning international shipping, including price-fixing and capacity-limiting agreements (ratemaking agreements). This approach is in contrast to most other industries where the onus is on collaborating firms to satisfy the Commerce Commission that the collaboration will have net public benefits.
- Developments in international shipping over the past two decades, in particular the rise of collaboration agreements without price-fixing or capacity-limiting provisions (non-ratemaking agreements), independent carriers, and individual service contracts, have called into question the need to automatically exempt all types of agreements to ensure adequate and reliable services.
- Moreover, international policy opinion has shifted against automatic exemption with an influential OECD study opposing exemption, and all 25 EU countries collectively deciding to change EU law and remove the exemption for ratemaking agreements.
- Shipping lines that supply container shipping services to and from New Zealand appear to have reduced their reliance on ratemaking agreements and largely adopted other forms of collaboration agreements.
- With the shift in international thinking and the experience of many services operating without ratemaking agreements, there now seems little reason to treat international shipping differently to other industries, and retain their automatic exemption in New Zealand. This is particularly so in light of the Government's proposed law to make cartel behaviour a criminal offence.
- Removing the exemption can be expected to deliver benefits from increased competition, but it is not clear how large these will be. On the one hand there is evidence that New Zealand shippers pay significantly higher freight prices than their Australian counterparts, but in other respects international shipping services to and from New Zealand appear competitive. Moreover, there could be risks for New Zealand to move radically ahead of other countries and, in particular, ahead of Australia which still has exemptions for ratemaking agreements.
- Another benefit of removal is insurance against future carrier collusion. Incentives for collusion will likely increase in the future as the market moves into a position in the international shipping cycle

of more constrained supply.

- The Commission recommends removing New Zealand’s exemptions for the potentially more damaging types of agreements – involving price-fixing, or limiting capacity to raise prices. Exemptions would still be possible, but conditional on authorisation or clearance by the Commerce Commission. New Zealand should retain an automatic exemption for agreements that neither fix rates nor limit capacity.
- The changes should include a transitional period to allow any existing ratemaking agreements to be cleared, authorised or amended to ensure compliance with the Commerce Act.
- In the case of non-ratemaking agreements, New Zealand should also:
 - have only one exemption (in the Shipping Act 1987) and apply it equally to inward and outward shipping;
 - introduce a registration regime for exempted agreements; and
 - exempt agreements only if they permit and protect confidential individual service contracts.

11.1 International sea freight competition exemptions

Liner shipping involves regular scheduled sailings between specified ports, with cargo generally carried in containers.

Collaborative agreements in sea freight

Liner shipping operators use various types of collaborative agreements to coordinate rates, capacity, routes, frequency and other matters. This chapter divides agreements into ‘ratemaking agreements’ and ‘non-ratemaking agreements’, as described in Box 11.1. The defining characteristic of ratemaking agreements is that they include agreement to set or manage freight rates on a route and/or to limit capacity in order to raise rates above what they would be in the absence of the agreement.

Box 11.1 Types of collaborative agreements

Ratemaking agreements (sometimes known as commercial agreements)

- ‘Conference agreement’: an agreement between a group of ocean carriers to set rates and manage capacity on a specific trade route. The carriers might also agree to limit capacity.
- ‘Rate discussion agreement’: an agreement between a group of ocean carriers to discuss advised rates and capacity management for a specific trade route.

Non-ratemaking agreements (sometimes known as consortia agreements or operational agreements)

- ‘Alliance agreement’: an agreement between a group of ocean carriers to jointly operate a network of vessel services.
- ‘Cooperative working agreement’: an agreement between two or more carriers regarding joint services.
- ‘Equipment interchange agreement’: an agreement between a group of ocean carriers to jointly use and manage a pool of equipment.
- ‘Non-rate discussion agreement’: an agreement between a group of ocean carriers to discuss service-related and capacity-management matters.
- ‘Sailing agreement’: an agreement between two or more ocean carriers regarding coordinated

sailings.

- 'Vessel sharing agreement': an agreement between two or more ocean carriers regarding sharing of vessel space (space or slot charters and/or swaps).

Ratemaking agreements used to be the main form of collaboration but various types of non-ratemaking agreements are now popular (OECD, 2002).

Discussion agreements have tended to replace conference agreements as a collaboration mechanism (International Container Lines Committee, sub. 48). However, as a class, discussion agreements do not fall neatly into either the ratemaking or non-ratemaking category. A discussion agreement will fall in one or other category depending on its particular terms and how the agreement operates in practice.

In its 2005 report on international liner cargo shipping, the Australian Productivity Commission (APC) concluded that:

...discussion agreements add little to the provision of scheduled liner cargo shipping services on Australian trade routes but, by bringing together competing parties to discuss *market conditions, services and freight rates*, they enhance the ability of carriers to act in an anticompetitive manner, thereby limiting competition to the detriment of Australian shippers. [emphasis added]

Australian Productivity Commission (2005, p.201)

Collaborative agreements are much less common in non-container shipping, but there are some instances of 'pooling agreements' on some international trade routes.

Shipping collaboration is often exempted from competition law

Collaborative agreements are often protected from the normal competition scrutiny that countries apply to all other industries. Many governments around the world exempt liner shipping collaboration from the full application of domestic competition laws (or 'anti-trust' laws). Each jurisdiction has taken a slightly different approach (Ministry of Transport, 1983; Appendix D).

New Zealand is one of the countries that offer exemption. Shipping lines that run freight services to and from New Zealand are exempt from the Commerce Act 1986.

The basis for the exemption is a judgement of net benefits. Governments have judged that liner collaboration is likely to deliver benefits that outweigh the cost of less competition. The net benefits are considered to be clear enough to justify a 'block exemption' for all collaboration of a certain type, rather than a provisional exemption that requires shipping lines to prove the benefits of their collaboration on a case-by-case basis.

A number of governments (not including New Zealand) have reviewed the basis for these competition law exemptions over the past decade or so. In particular, these governments have questioned whether agreements that set rates and limit capacity (mainly conference agreements) deliver clear net benefits.

The objective is to ensure stable international shipping services

The benefits of conference agreements are argued to be the prevention of price instability and 'destructive competition' in liner shipping. Price instability could be the result of seasonal and fluctuating demand, and capacity set to meet the maximum demand in either direction (OECD, 2002). A combination of high fixed costs, the need to maintain a schedule and the consequent excess capacity could create conditions for 'destructive competition' and price wars. In periods of excess capacity, there would be a tendency for prices to fall to short-run marginal costs, thereby generating returns below the level needed to cover long-run average costs and putting some operators out of business.

The fear was that these conditions would lead to some carriers monopolising the trade, in which case the price wars would be followed by monopoly or oligopoly pricing as most providers would be driven from the market (Ministry of Transport, 1983).

It was therefore argued that there was a need for capacity control and rate-fixing in order to ensure stable international shipping services. The OECD (2002) identified five benefits said to arise from conference agreements:

- Carriers can avoid exaggerated rate fluctuations in the face of supply/demand imbalances and encourage private investment in new capacity and technologies, allowing carriers to earn a compensatory rate of return on investments and continue to provide scheduled shipping services.
- These arrangements avoid destructive competition leading to an ever-dwindling number of super-carriers with much greater potential for monopolistic behaviour.
- Shippers are assured that regular predictable services will always be able to transport their goods.
- Shippers can expect that sufficient capacity will be deployed to transport all of their goods.
- Shippers can expect rates to exhibit greater stability than would otherwise prevail.

F11.1

Cooperation agreements between international liner shipping carriers have historically been exempt from the full application of domestic competition laws. The policy rationale for these exemptions was that price/capacity fixing and revenue pooling were needed to ensure reliable liner shipping operations. The benefits of the agreements were taken to be so likely to outweigh any anti-competitive detriments that there should be no onus on carriers to prove that this was the case.

The need for exemptions has been challenged

This need for competition law exemptions has been challenged in the last 15 years, given the rise of other less restrictive forms of cooperation and other market changes.

The two initial catalysts were the Ocean Shipping Reform Act of 1998 (the OSRA) in the United States and an OECD study in 2002:

- The OSRA enabled carriers to enter into confidential individual service contracts. This ability to contract confidentially increased the incentive of international shipping lines to 'cheat' on the conference and reduced the importance of conferences. The change resulted in more than 80% of liner cargo being carried under individual service contracts (Federal Maritime Commission, 2001). This improved competition appeared to benefit shippers without reducing service standards.
- The OECD study found no convincing evidence that the practice of discussing or fixing rates and surcharges among competing carriers offers more benefits than costs to shippers and consumers (OECD, 2002). It noted that, despite increased competition, many carriers were generating financial returns on a comparable level to other transport industry service providers. It recommended that competition-law exemptions should not be allowed to cover price-fixing and rate discussions. This led several jurisdictions to examine the basis for the continued competition-law exemption for all forms of cooperation between liner carriers, although the result has been different in different jurisdictions.

The most significant move in terms of amending the application of competition laws to international shipping has been in Europe, where the EC repealed the conference block exemption (ie, the exemption for ratemaking agreements) in October 2008, after a two-year transitional period. The EU's decision had the unanimous agreement of the then 25 EU member states (EU Directorate-General for Competition, sub. DR63).

Many governments still exempt liner shipping collaboration. Some jurisdictions in the Asia-Pacific region, such as Singapore and Japan, have maintained block exemptions for liner shipping. The Australian Government has not removed the exemption for agreements from competition law, despite a 2005 recommendation by the APC that it do so. In the United States, a Bill was introduced to Congress in 2010 to completely remove anti-trust immunity for liner shipping agreements involving price-fixing, capacity-

fixing, and revenue-pooling, while preserving immunity for 'efficiency-enhancing' cooperation (for example, sharing vessels and capacity). The Bill did not progress beyond committee stage.

Appendix D describes the international experience in more detail.

11.2 New Zealand's current regulatory approach to international shipping

New Zealand laws exempt international shipping from competition law and provide an alternative framework for regulating international shipping.

There are two Commerce Act exemptions in relation to international shipping

New Zealand provides formal exemptions from the Commerce Act's competition regime for international shipping in both the Commerce Act 1986 and the Shipping Act 1987:

- The exemption in the Commerce Act (s.44(2)) applies widely to types of agreement and to carriage of goods by sea, both inwards and outwards. It does, however, have a restriction on the exemption in that it only applies insofar as a provision of an agreement is 'exclusively for the carriage of goods by sea.' This restriction, in effect, limits the application of the exemption to conduct that occurs on board a ship.
- The Shipping Act exemption provides that nothing in Parts 2 (restrictive trade practices) and 4 (regulated goods and services) of the Commerce Act apply to 'outwards shipping'. 'Outwards shipping' is defined as 'the carriage of goods wholly or partly by sea from a place in New Zealand to a place outside New Zealand'. Inwards shipping, in other words importing, is not included in the exemption. The Shipping Act also contains its own remedial regime designed to protect New Zealand shippers from 'unfair practices' of carriers that could arise from the potentially deleterious impacts of exempting international shipping from normal competition rules. There have been no formal investigations under the Shipping Act (Ministry of Transport, sub. 46).

The two exemptions are subtly different in a number of ways.

- The exemption for 'outwards shipping' contained in the Shipping Act is wider than the exemption in the Commerce Act. 'Outwards shipping', as defined in the Shipping Act, specifically contemplates conduct or agreements in which only part of the journey is conducted by sea, while the Commerce Act exemption is explicitly limited to the carriage of goods by sea.
- The Shipping Act exemption applies to s.36 (relating to taking advantage of substantial market power) of the Commerce Act, whereas one possible interpretation is that the Commerce Act exemption does not (see the discussion in Appendix E).
- The Commerce Act exemption applies equally to both outbound and inbound sea freight, while the Shipping Act exemption is limited to outbound.

There seems little reason why two different exemptions are required. In a globalised world there seems little logic in the different treatments of exports and imports. One exemption would increase regulatory clarity and simplicity.

In an international context, New Zealand's exemptions are broader than most, but are similar to Australia's (albeit without the registration regime that exists there). Appendix E provides more detail about the exemptions and international comparisons.

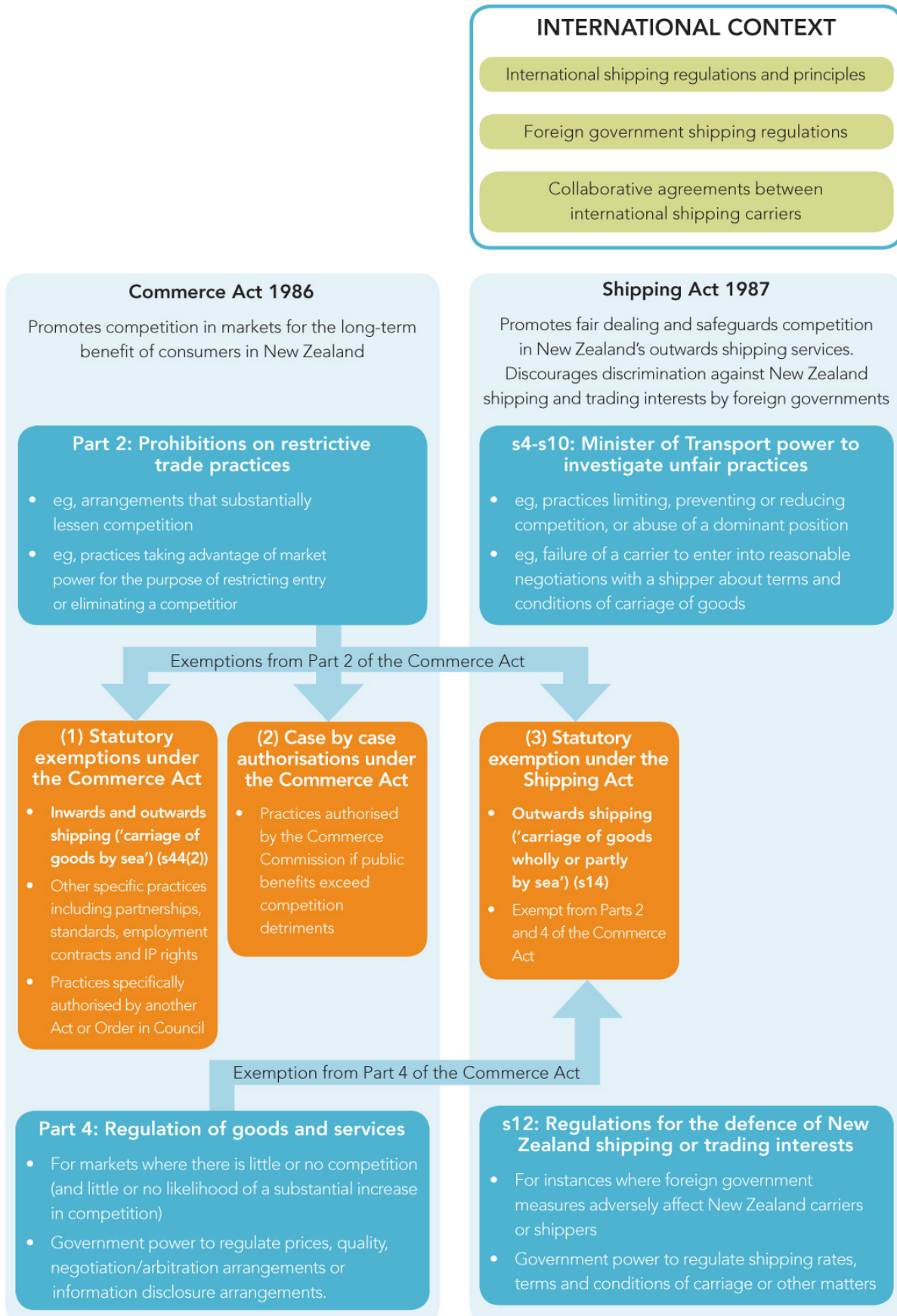
F11.2

Compared with other approaches, New Zealand's regulatory regime for international shipping is something of an outlier in that the exemptions apply widely and largely without the limiting conditions that are found elsewhere. Moreover, there seems little logic for having two somewhat different exemptions, which give rise to complexity and uncertainty and to inconsistent treatment of importing versus exporting.

The Shipping Act is a parallel framework for regulating international shipping

The Shipping Act 1987 provides a framework for regulating outwards shipping that roughly parallels Parts 2 and 4 of the Commerce Act. Figure 11.1 provides a broad-brush view of this parallel framework and how it relates to the Commerce Act.

Figure 11.1 New Zealand legislation regulating competition between international shipping services



Unfair practices regime

The Shipping Act's parallel to Part 2 of the Commerce Act is an 'unfair practices' regime (s.4–10 of the Shipping Act). The Shipping Act unfair practices regime is similar to the Commerce Act regime in that it focuses on certain anti-competitive practices and it provides for the government to intervene when such practices occur. In other respects the Shipping Act regime is quite different:

- The Shipping Act regime focuses on protecting the interests of New Zealand exporters.
- 'Unfair practices' focus on the ability of exporters to secure shipping services. For example, it is an unfair practice if the carrier does not enter into reasonable negotiations with the shipper about terms and conditions of carriage. It is also an unfair practice if the carriers change terms and conditions of carriage without giving the shipper reasonable notice.
- There are no penalties for unfair practices. The Minister of Transport can direct a carrier to provide information to the Secretary of Transport or to give reasonable notice to shippers, and there is a fine of up to \$50,000 for not complying with a direction. However, the unfair practice itself does not attract a monetary penalty.

The focus of the Shipping Act regime on negotiations between shippers and carriers is similar to the Australian competition regime for international shipping. Part X of the Competition and Consumer Act 2010 exempts conference agreements from provisions of competition law "provided that they meet certain obligations to exporters and they do not misuse any market power" (Australian Productivity Commission, 2004, p. xviii).

Regulation of outwards shipping in response to foreign government restrictions

The Shipping Act's alternative to Part 4 of the Commerce Act is the power in s.12 to regulate shipping services. However, the Shipping Act's regulatory power is significantly different from the regulatory power in Part 4 of the Commerce Act:

- The Shipping Act's regulatory power is reactive. If a foreign government restricts New Zealand shipping services or restricts the choice of shipping services for New Zealand exporters, the Shipping Act allows the New Zealand government to counter with its own restrictions. The New Zealand restrictions would only apply to outwards shipping by ships controlled by the foreign government that imposed the restrictions (or nationals of that government's country).

The primary purpose of this reactive power is to deter foreign governments from imposing restrictions in the first place (Minister of Transport, 1983). In contrast, the focus of Part 4 of the Commerce Act is on regulating markets where there is little competition.

- Under the Shipping Act, the government can restrict the entry and exit of ships from New Zealand ports, or impose charges on ships that enter New Zealand ports. These forms of regulation may restrict services to New Zealand shippers (though the aim is to deter other restrictions by foreign governments). In contrast, the Commerce Act's regulatory powers aim to promote outcomes that are consistent with outcomes produced in competitive markets.

Both Acts provide for the government to regulate shipping rates. The exemption from Part 4 of the Commerce Act provides clarity to shippers about which regulatory regime applies.

However, the Shipping Act's regulatory powers may no longer be necessary. The Shipping Act regulations have never been used and are unlikely to be used in the current market environment. The OECD (2004) noted that on most shipping trades there is relatively free-trade access to cargo and relatively few impediments to the provision of blue water shipping services. Under these circumstances, the New Zealand government should have little need to retaliate against foreign government restrictions by introducing its own restrictions under s.12 of the Shipping Act.

F11.3

The power under s.12 of the Shipping Act – to regulate shipping in response to foreign government restrictions – may no longer be necessary. Repealing s.12 would enable the government to remove the exemption from Part 4 of the Commerce Act for outwards shipping. The threat of regulation under Part 4 provides an incentive for shipping lines to act competitively.

11.3 Is New Zealand's exemption needed for reliable shipping services?

If the exemptions were necessary and commercially advantageous, then one would expect them to be well used. If they are not being used, or not being used for particular types of agreements, this would suggest that they are of limited commercial and strategic importance.

New Zealand's exemptions apply automatically without any need for registration. Without registration there is incomplete public information on the prevalence of conference agreements, discussion agreements, and the various forms of non-ratemaking agreements. The Commission has relied on secondary resources.

Ratemaking agreements do not appear to be essential for reliable New Zealand liner services

According to the International Container Lines Committee, conference arrangements have not operated in New Zealand since the early 2000s. Conference arrangements have been replaced by non-binding discussion agreements. This is consistent with the position reported in Australia (Australian Productivity Commission, 2005; APEC Policy Support Unit, 2011).

Discussion agreements are more general in operation than conference agreements, but more specific in geographic scope. They operate to collate the supply and demand features of the specific trade. They establish (on a non-binding voluntary basis) floor rates of freight and, if applicable, surcharges and other terms and conditions in that trade (International Container Lines Committee, sub. 48). Despite their voluntary nature, the Global Shippers Forum considers that discussion agreements are still anti-competitive cartel agreements (sub. DR103).

According to the International Container Lines Committee (sub. 48), there are two discussion agreements currently in operation in New Zealand. These represent three geographic regions for New Zealand exports and less than 40% of total import and export container volumes into and out of New Zealand:

- The Asia New Zealand Discussion Agreement (ANZDA): operates from ports in North East Asia (Japan, Korea, Taiwan PRC, Hong Kong PRC and China) and South East Asia (Singapore, Indonesia, Malaysia, Philippines, Thailand and Vietnam) to ports in New Zealand, and from ports in New Zealand to ports in North East Asia and South East Asia; and
- The Australia and New Zealand-United States Discussion Agreement (ANZUSDA-USADA): operates from ports in Australia and New Zealand to ports in the US (including Alaska, Hawaii, Puerto Rico and the US Virgin Islands).

In addition, New Zealand has previously been (and may still be) part of a number of other discussion agreements.¹⁴²

Non-ratemaking agreements appear to be more widespread. The Ministry of Transport suggests that "collaborative arrangements by international shipping are an international 'fact of life' for global trade" noting that there "are a wide range of such arrangements, some of which have no connotations of market power issues" (sub. 46, p. 5). The International Container Lines Committee submitted that joint services

¹⁴² These include the Canada/Australia-New Zealand Discussion Agreement (CANZDA), the Australia/New Zealand Discussion Agreement, the Australia/New Zealand Vessel Operators' Discussion Agreement, the Butterfly service consortia agreement, and the US Pacific Coast Oceania Agreement (Australian Productivity Commission, 2005). See also Chapter 4.

operate on many trade routes into and out of New Zealand and these require operational cooperation (sub. 48).

As a recent example, it appears that shipping carriers used non-ratemaking agreements to respond to the excess supply situation created by the global financial crisis. The Shippers' Council submitted that "capacity has diminished in the previous two years as carriers have formed sharing arrangement[s]" (sub. 43, p. 8).

However, it does not appear from submissions received that even a significant downturn such as the global financial crisis has resulted in destructive competition among New Zealand services. Six of the largest 10 shipping companies operate regular liner services to New Zealand.

This and the apparent low use of ratemaking agreements in the marketplace suggest that ratemaking agreements have a limited role in ensuring reliable services.

There is no evidence of overseas reforms leading to lower service quality

The effect of reforms in the US and the EU should indicate whether the removal of the New Zealand exemptions for ratemaking agreements would undermine regular services.

The Federal Maritime Commission (FMC) credited the US reforms with supporting the use of efficiency-enhancing cooperation agreements such as vessel-sharing and space charters (Stewart, Inaba and Blatner, 2003; cited in Australian Productivity Commission, 2005). There is no evidence of these reforms leading to any material degradation in service quality.

The FMC's Bureau of Trade Analysis recently released a study of the EU's repeal of the liner conference exemption. Its primary finding is that "no significant changes in rate levels occurred between EU and US liner trades due to the repeal" (Federal Maritime Commission Bureau of Trade Analysis, 2012, p. viii).

The Asian Shipowners' Forum argues that the FMC study indicates that the major benefits of the EU decision have not materialised (sub. DR88). This submission and the International Chamber of Shipping drew attention to the FMC's findings that the repeal had apparently not resulted in any relative decline in EU freight rates compared with US rates, and that the existence of discussion agreements may have dampened rate volatility (sub. DR88; sub. DR98).

In contrast, the EU Directorate-General for Competition sees the FMC study as broadly vindicating the decision to abolish the exemption from 2008 (sub. DR63). It cites the FMC's findings that carriers tended to maintain more service capacity in markets where liner agreements are prohibited; that the very modest increase of concentration in the Asia-Europe trade was unproblematic; and that the impact on service quality was neutral.

Despite our constant market monitoring and regular contacts with shippers and carriers, we have not been able to identify repeal-driven detrimental effects on EU trades in terms of all-in prices and services quality

EU Directorate General for Competition, sub. DR63, pp. 7-8

The FMC study's finding of little impact from the repeal is important for this inquiry. It indicates that an exemption from competition law is not essential to reliable liner shipping services. That is, liner shipping should not necessarily be treated differently to other industries under competition law because of the danger of destructive competition and price wars.

F11.4

The balance of the limited evidence that exists following the changes in shipping regulation in the US in 1998 and the EU in 2008 appears to favour the view that these changes have not led to material degradation in the quality of shipping services.

Removing the exemptions creates compliance costs but other industries face these costs

Removing the exemptions would not mean that beneficial, but anti-competitive, agreements could not be implemented. The Commerce Act provides a mechanism for parties to seek authorisation for agreements that may otherwise breach the Commerce Act, provided they deliver net public benefits to New Zealand.

However, removing the exemptions would place the onus on carriers to demonstrate to the Commerce Commission that the agreements they wish to enter into are in the public interest. Each agreement would require its own authorisation.

Relying on an authorisation introduces an element of uncertainty and cost for parties that is not present with the current exemptions in place. Parties will not know from the outset whether their agreement will be authorised by the Commission.

There are also material costs associated with the authorisation regime, both for the applicants and for the Commerce Commission. The direct cash costs to applicants of an authorisation are likely to run to several hundreds of thousands of dollars (covering legal fees and economic consultancy fees). Perhaps of more significance is the management time required to navigate an authorisation process, which can be disruptive for businesses.

However, parties in almost all other industries face these same potential costs. In respect of those industries, the policy decision has been made that the benefits of competition with the backstop of an authorisation process outweigh any deterrent impacts associated with that authorisation regime. Shipping is an important industry for New Zealand's economic wellbeing, but there is little reason to consider it is more important than other large industries in New Zealand.

In addition, a Bill currently in Parliament provides for a Commerce Commission 'clearance regime' for certain collaborative activities. The clearance process should be cheaper (both in terms of direct and indirect costs) and more timely than an authorisation process. The Bill is described in Box 11.2.

More importantly, the Bill proposes to criminalise cartel conduct. Arguably a stronger justification is required for retaining an automatic exemption from a potentially criminal offence than from a civil offence.

Box 11.2 The Commerce (Cartels and Other Matters) Amendment Bill 2011

The Commerce (Cartels and Other Matters) Amendment Bill was introduced to Parliament on 13 October 2011. The Bill proposes to repeal the current sections 30-34 of the Commerce Act (which contain the provisions relating to price-fixing conduct) and substitute a new regime which prohibits a person from entering into or giving effect to a 'cartel provision'.

A cartel provision is defined in the Bill as broadly including price-fixing provisions, provisions that involve restricting output, market allocation provisions and bid rigging.

The Bill introduces criminal sanctions for individuals and companies for entering into and giving effect to 'cartel provisions'; the criminal regime is proposed to be run concurrently with the existing civil regime.

The Bill also amends the existing joint venture exemption for 'cartel provisions'. The Bill proposes that a provision which would otherwise be a cartel provision will not be a cartel provision if:

- the parties to the relevant agreement of which the cartel provision forms part are involved in a 'collaborative activity', ie, an enterprise, venture, or other activity, in trade, that:
 - is carried on in cooperation by the parties; and

- is not carried on for the dominant purpose of lessening competition between the parties; and
- the 'cartel provision' is 'reasonably necessary' for the purpose of the collaborative activity.

The Bill retains a modified form of the existing exemption for joint buying and promotion agreements.

The 'collaborative activity' exemption is intended to capture a wider range of pro-competitive initiatives than the current joint venture exemption.

To aid certainty, the Bill proposes to introduce a voluntary clearance regime which will enable persons to apply to the Commission for clearance that the collaborative activity exemption applies. A clearance would immunise the relevant provision from challenge under s.30 or s.27 of the Act.

Many ratemaking and non-ratemaking agreements will involve a 'cartel provision' under this definition and so could be 'cleared' under this system if the overall collaboration did not substantially lessen competition. This clearance process would be more straightforward than the authorisation process and this would help mitigate any deterrent effect. Of course, where competition would be substantially lessened, the parties could still seek an authorisation.

Removing the exemption before other countries may discourage carriers from servicing New Zealand

While there was support among a number of non-carrier submitters for the exemption to be removed, submitters were reluctant to see New Zealand 'leading the charge', particularly in advance of Australia (sub. 46; sub. 7; sub. 31; sub. 34).

Submitters were concerned that removing the exemption would discourage carriers from servicing New Zealand and make New Zealand a more onerous country to deal with. In addition to Australia, the analysis of overseas jurisdictions indicates that a number of Pacific Rim countries retain exemptions and these are important trade-hubs for New Zealand's imports and exports. Even in the EU, non-ratemaking agreements continue to have the benefit of a block exemption.

11.4 What are the benefits of removing exemptions?

The benefit of removing the exemption is the promotion of competition. All agreements would be subject to scrutiny. The Commerce Commission would only authorise agreements that have net benefits or agreements that do not substantially lessen competition.

The promotion of competition is an important long-run benefit

The benefit of promoting competition may not be large in the current market conditions. The Ministry of Transport considers that the market is currently competitive:

...the observed behaviour of international shipping lines in New Zealand shows a lot of competitive activity. These observed behaviours include the following.

At least half of the world's top international container lines are doing business in New Zealand, despite New Zealand's total international trade being a mere 0.2 per cent of total international trade.

Many international lines visit multiple ports in New Zealand (to gain as much market share as possible), rather than making better use of their vessels by calling at only a few ports.

Lines chase more business by offering more economical supply chain solutions for New Zealand businesses through moving ships to cargo instead of cargo to ships.

Whenever lines reduce or cease services to a port, it is common place for other lines to commence services ("fill the vacuum") to that port within about three to nine months.

There have been increased shipping services to New Zealand recently by four international lines.

The Ministry's reference to carriers being quick to respond to market opportunities as they arise was consistent with carrier submitters that highlighted low barriers to entry and expansion in the market (sub. 6; sub. 48).

The views of shippers on the competitiveness of the industry were more restrained. The Employers' and Manufacturers' Association (Northern) Inc. (the EMA) noted that "some of our members do claim poor competition," although it went on to say "we believe that competition is stronger now than it has been" (EMA, sub. 7, p. 7), and it did not attribute competition issues to arrangements between shipping operators. The Kotahi Logistics LP Ltd submission acknowledged the benefits from collaborative arrangements but suggested that there may be limited pass-through of cost savings (sub. 29).

Some submitters, including Kotahi, noted a lack of choice at certain ports. It is not clear to the Commission whether this lack of choice reflects a competitive and cooperative response to the level of demand at a port, or the result of non-competitive capacity management by competitors, which may or may not be in the public interest. Assessing whether an agreement is in the public interest is the very role the Commerce Commission would play.

While a number of indicators suggest considerable competition among international shipping services to and from New Zealand, the Commission also found case-study evidence of considerably higher sea-freight rates on New Zealand services compared with Australian services to the same third-country ports – Singapore, Shanghai and Long Beach, California (see section 4.2). Moreover, these price differences were not fully explained by plausible estimates of cost differences.

Longer-run considerations are also important. While the current market environment is subdued, capacity tends to become more limited in a boom phase of the shipping cycle. The benefit of removing the exemptions is more likely to lie in insurance against anti-competitive carrier behaviour in times when capacity is constrained.

The Shipping Australia Ltd submission rejects this need for regulatory 'insurance' and it does not agree that the market will become constrained in the future (sub. DR71). However, it is not certain that excess supply will continue. The point of insurance is to protect against uncertain but potentially damaging events. Anti-competitive behaviour in supply-constrained markets is just such an event.

Overall, there are likely to be net gains from taking a more pro-competitive stance towards international container shipping, with only a small risk of any deterioration in services. There are potential gains in the form of keener pricing and more choice of international sea-freight services for New Zealand exporters and importers. The gains are likely to be relatively greater during periods in the shipping cycle of constrained supply of container sea-freight transport relative to demand.

F11.5

A number of indicators suggest that the international shipping industry serving New Zealand is competitive. On the other hand, case studies show evidence of higher sea-freight rates on New Zealand services compared with Australian services that do not seem to be fully explained by cost differences.

Ratemaking agreements are not currently in widespread use; however, there are likely to be net gains from taking a more pro-competitive stance towards international container shipping, with only a small risk of any deterioration in services. A further benefit lies in insurance against a future degradation of outcomes for New Zealand through carrier collusion as the market moves into a position of more constrained supply.

Shipping carrier collaboration to put downward pressure on port charges

Some submitters considered that a further benefit of the removal of the exemptions is that it would reduce the asymmetry in bargaining power between ports and carriers over port charges. Currently, carriers are able to work together in negotiating with individual ports. The asymmetry was highlighted by some submitters:

...it would appear that there might be asymmetry due to port companies being subject to the Commerce Act while shipping lines are exempt.

New Zealand Shippers' Council Inc, sub. 43, p. 16.

There is asymmetry of bargaining power because:

1. The lines are generally larger entities than port companies and they can collude to negotiate with exporters and importers [Commerce Act s.44(2)] which further strengthens their hand; and
2. The container lines can easily change ports and move containers around the country whereas ports are immobile.

Port Companies of New Zealand, sub. 31, p. 9; CentrePort Ltd, sub. 33, p. 10

In contrast, the International Container Lines Committee submitted:

There is currently no asymmetry of bargaining power between ports and shipping lines in conducting negotiations over rates, apart from the possibility that some influential cargo interests may seek to conduct separate negotiations with ports, that may thereby restrict the latter's room to manoeuvre.

International Container Lines Committee, sub. 48, p. 29

Asymmetry of bargaining power could be an issue if it allowed foreign-owned carriers to obtain extra income from New Zealand port companies without passing any of that income on to New Zealand shippers in the form of lower charges or better services. One potential solution would be for shippers to collaborate and exercise countervailing power, as envisaged by the Kotahi initiative. But in this event, the intermediate position of ports in the supply chain would leave them subject to bargaining pressure from large organised shippers on the one hand, and potentially-collaborating shipping companies on the other.

There is certainly an asymmetry in terms of the application of the Commerce Act, but it is less clear how this translates into market practice. The Federated Farmers and Kotahi submissions noted that a number of factors influence bargaining strength (sub. 27; sub. 29).

In any case the Commission does not see that removal of exemptions for ratemaking agreements will prevent shipping companies acting jointly over port charges. This is because the Commerce Act provides an exemption from its general prohibition of price collusion in the case of joint buying (s.33). This exemption is carried over into the cartels Bill, which provides that the prohibition on cartel provisions will not apply if the relevant provision:

- relates to the price for services to be collectively acquired, whether directly or indirectly, by the parties to the agreement; or
- provides for a collective negotiation of the price for services followed by individual purchasing at the collectively negotiated price.

The rationale for the joint-buying exemption is the proposition that cost efficiencies gained 'upstream' will be passed 'downstream' to consumers of services (ie, shippers). How much this actually occurs will depend on the level of competition in the market for shipping services. If this competition increased as a result of removing the exemption for ratemaking agreements, then more of any benefit from reduced port charges could be passed through to New Zealand shippers.

A final point is that joint-buying agreements still remain subject to the general s.27 test in the Commerce Act. This would disallow any agreement if it were on a scale that resulted in a substantial lessening of competition in the market for the purchase of port services by shipping companies.

F11.6

The removal of competition exemptions for ratemaking agreements will not prevent shipping companies from collaborating to jointly purchase port services. However, any increase in the level of competition in the market for shipping services as a result of removing the exemptions could see a higher proportion of any gains from lower port charges passed through to New Zealand shippers.

11.5 Recommendations

The Commission recommends several changes to the current exemptions.

Exemptions for ratemaking agreements should be repealed

New Zealand's exemptions for the types of agreement with the higher risk of anti-competitive detriment – ratemaking agreements – should be removed. Such agreements could still be 'cleared' (if the clearance regime for cartel provisions is enacted), or authorised under the Commerce Act.

An exemption for non-ratemaking agreements should be retained.

The Commission's conclusion rests on a number of considerations:

- There appears to be no strong reason to conclude that the shipping industry is more important than other major industries in New Zealand which are currently exposed to the Commerce Act and the authorisation regime.
- There appears to be little evidence that automatically exempting all ratemaking agreements from the application of the Commerce Act is necessary to ensure continued services to New Zealand.
- Alongside indications that international shipping services to and from New Zealand are competitive there is case-study evidence of New Zealand shippers paying higher prices than Australian counterparts, which is not fully explained by higher costs.
- There is merit in being armed with a regime that can cope well with other stages of the shipping cycle when the supply-demand imbalance tilts in favour of sellers.
- Removing the exemptions and relying on the Commerce Act and the clearance and authorisation regimes for ratemaking agreements is consistent with EU law, with the APEC Guidelines, and with the 2005 Australian Productivity Commission recommendations in relation to Part X of the CCA.
- The case for removing the exemption for ratemaking agreements will become stronger if:
 - the proposed low-cost clearance regime for cartel conduct is introduced (which is expected in the current parliamentary term); and
 - the APC's recommendations in relation to Part X of the CCA are enacted – either full removal of the current exemptions (the APC's first recommendation), or partial removal with respect to higher-risk agreements (the APC's alternative recommendation).
- The cost of seeking authorisations from the Commerce Commission is considerable and seems unjustifiable in the case of agreements having low risk of anti-competitive detriments. The cost also risks deterring agreements with net value to New Zealand shippers.

The concerns expressed by submitters about New Zealand moving too far ahead of its major trading partners, especially Australia, are unlikely to be justified if the exemption removal is limited to ratemaking agreements.

Coordination between New Zealand and Australia in relation to the proposed change would be desirable (and may reduce the potential costs of removing the exemptions for each party), but the Commission does not judge it to be essential.

A further issue is that any change will require a transitional period to allow the continuation of agreements in place at the time the exemption is repealed, pending them being authorised, cleared, or amended to ensure compliance with the Commerce Act.

Lastly, some submitters expressed a concern about shipping lines serving the Pacific Islands. The low volumes of cargo on these routes mitigates against commercially-competitive supply. Moreover, examination of the net benefits of a collaboration agreement for these services under the Commerce Act

would overlook its consequences for Pacific Islands (other than for those islands technically part of New Zealand). For this reason, the Government may wish to treat Pacific Island services as a special case.

R11.1

Ratemaking agreements – ones involving price-fixing or limiting capacity with the intent of raising prices – have a high risk of anti-competitive detriment. Exemptions for such agreements should be removed and authorisation mechanisms should be relied upon for assessing whether these agreements are in the public interest.

There should be a transitional period to allow the agreements in place at the time the exemption is repealed to continue until their compliance with the Commerce Act 1986 has been tested.

The recommendation's wording with regard to capacity-limiting agreements is important. As the New Zealand Shippers' Council and the Meat Industry Association note, the Commission needs to ensure that the removal of an exemption does not create a barrier to more shipping capacity serving New Zealand (sub. DR69; sub. DR84). While the exemption should be removed for agreements that limit capacity with the intent of driving up prices, it would still apply to agreements that share capacity without limiting it.

The EU's approach is informative here. EU competition law reflects a distinction between capacity-limiting and capacity-setting agreements in its block exemption for consortia. It does so by drawing a distinction between 'hard core' cartel conduct, which is not permitted, and capacity sharing, which is permitted on the basis it is pro-competitive.

The Commission's recommendation is in line with practice recommended for Australia

While the APC in 2005 recommended the complete removal of the exemptions in Australia, no amendments have yet been made. It is not clear when or indeed if that recommendation will be followed.

The APC also put forward an alternative recommendation to amend Australia's exemption. The Commission's recommendation for New Zealand is close to this alternative recommendation in that the basic thrust of each is to remove exemptions for ratemaking agreements because they carry a higher risk of anti-competitive detriments.

The APC alternative also recommends not exempting discussion agreements.¹⁴³

The APC's alternative recommendation is broadly consistent with the EC block exemption for consortia agreements.¹⁴⁴

The remaining exemption for non-ratemaking agreements should be modified

The exemption for non-ratemaking agreements that would remain in place under the Commission's recommendations should be widened to include inwards shipping as well as outwards shipping. The Commission accepts that there is at least potential for this to raise international law issues which, although beyond the scope of this report, would need to be assessed as part of an evaluation of this step. However, there is no reason in principle why importers should not be afforded the same protection as exporters.

A registration scheme should be implemented. A registration regime would enable the Ministry of Transport to monitor the existence and prevalence of agreements. This would inform policy decisions in the future and would bring New Zealand into line with Australia and the United States.

¹⁴³ It should be noted that the APC did not offer a definition of 'discussion agreement'. However, the APC concluded that "discussion agreements add little to the provision of scheduled liner cargo shipping services on Australian trade routes but, by bringing together competing parties to discuss *market conditions, services and freight rates*, they enhance the ability of carriers to act in an anticompetitive manner, thereby limiting competition to the detriment of Australian shippers." (emphasis added) The inclusion of factors such as market conditions and services suggests that both ratemaking and non-ratemaking discussion agreements would be excluded from automatic exemption under the APC's recommendation.

¹⁴⁴ Regulation 906/2009 provides that the consortia exemption will not apply to a consortium that has as its object: the fixing of prices when selling liner shipping services to third parties; the limitation of capacity or sales (except for limited capacity adjustment exemptions); or the allocation of markets of customers.

The Commerce Commission would remain responsible for investigations and prosecutions in relation to agreements that potentially breach the Commerce Act. The Ministry of Transport's register of agreements would enable the Commerce Commission to investigate agreements believed to be problematic more easily.

While non-ratemaking agreements do not, by definition, cover pricing of services, they could still include a provision that the parties agree to reveal the pricing details of their individual contracts. The US experience under OSRA – whereby agreements must not only allow individual contracts but also protect their confidentiality – is that this provision strongly supports competitive behaviour. For this reason, the Commission recommends a similar provision apply for non-ratemaking agreements in order to qualify for exemption.

Noting the recommendation to have only one exemption and given the role the Ministry of Transport is likely to have under this recommendation, it seems sensible that the exemption be retained in the Shipping Act.

R11.2

The exemption for non-ratemaking agreements should be retained in the Shipping Act 1987 and be conditional on filing agreements with the Ministry of Transport for placing on a public register.

The exemption and remedial regime should apply equally to outwards and inwards shipping.

To be eligible for exemption, agreements must allow and protect confidential individual service contracts

The exemptions for international shipping in the Commerce Act should be repealed.

12 Regulation of international air freight services

This chapter describes how governments regulate the supply of international air services and considers the effect of liberalised air services agreements on freight. It also recommends improving the way competition between airlines is regulated.

Key points

- There is a well established international practice of restricting the rights of airlines to carry passengers and freight between countries.
- Countries exchange traffic rights in and out of their territories through bilateral or multilateral agreements, known as 'air services agreements'.
- Recent international studies have found evidence that more liberal air services agreements are associated with an increase in the amount of passengers and freight that are transported by air. The evidence for New Zealand is not as clear, but there are certain air services agreements that appear to be constraining air freight supply.
- Certain international air services trade practices can be exempted from the Commerce Act's prohibitions on restrictive trade practices if they meet certain criteria in the Civil Aviation Act and are authorised by the Minister of Transport.
- Subject to a review of the passenger-specific impacts, the Government should consider adopting a Commerce Act-only regime for regulating international air services. A Commerce Act-only regime provides for comprehensive analysis of costs and benefits of trade practices, and this in turn ensures authorisation decisions that should maintain or improve air services efficiency.
- If the Government retains the current competition regime, it should make changes to Part 9 of the Civil Aviation Act to improve the assessment of the costs and benefits of proposals to authorise certain trade practices.

12.1 How governments regulate the supply of international air services

There is a well established international practice of restricting the rights of airlines to carry passengers and freight between countries. This practice was established by the 1944 Convention on International Aviation (the Chicago Convention).

Countries (including New Zealand) exchange traffic rights in and out of their territories through bilateral or multilateral agreements, known as 'air services agreements' (ASAs). ASAs cover matters such as the routes that may be flown, the capacity that may be offered by airlines, how many airlines may operate, and how tariffs (ie, prices) may be regulated.

Countries negotiate air services agreements

The main matters of negotiation in ASAs are 'freedoms of the air'. These freedoms determine what types of routes designated airlines may take when carrying traffic in and out of a country's airspace. Table B.1 in Appendix B describes the freedoms of the air.

The focus of ASAs is largely on passenger traffic. Governments negotiate rights to carry passenger traffic both because of the benefit for national designated airlines (whose businesses are predominantly driven by passenger traffic) and the tourism benefits of increased international visitors.

Countries have liberalised ASAs over the last 30 years to allow more passenger and freight travel between countries and entry by airlines into markets. New Zealand has been one of the leaders of this trend. New Zealand's ASAs with Australia, the UK, Singapore, Chile and Brunei are very liberal by international standards.

Appendix B provides more information on New Zealand's international air services agreements.

The government is reviewing how it negotiates air services agreements

Several ASAs have recently been liberalised or may soon be liberalised. On 17 February 2012, the Government announced new arrangements with Japan that remove limits on operations to and through airports in Japan outside the Tokyo region (Minister of Transport, 2012). The Government is also looking to negotiate improved ASAs with countries in South America (Associate Minister of Transport, 2011), and expects to start negotiations with China on air services rights in April 2012.

The Ministry of Transport is reviewing the policy objectives for initiating and negotiating ASAs. The Ministry expects to complete this review in 2012. It will look at whether it is necessary to update the policy stated in 1998, which is described in Appendix B.

12.2 The effect of liberalised air services agreements

Submissions expressed concerns with the potential constraints imposed by the current ASA policy. The New Zealand Airports Association considered that ASAs based on reciprocal rights may harm New Zealand if New Zealand cannot provide corresponding benefits to other large countries, resulting in agreements with capacity constraints (sub. 41). Similarly, Auckland Airport's submission considered that the current policy focuses too much on reciprocity and bilateral rights, and noted concerns about limits on competition as a result of ASAs (sub. 38).

In contrast, Air New Zealand submitted that it was not aware of any ASAs that create a shortage of supply of air freight (sub. 47).¹⁴⁵ The Ministry of Transport's submission also noted that there are unutilised traffic rights available in many of New Zealand's ASAs (sub. 46). It noted that parties to ASAs are often more willing to liberalise for cargo than for passenger services. As an example, the Ministry noted that New Zealand has nine agreements that specify separate cargo rights.

Air services agreements have significant costs and benefits specific to passenger services and New Zealand's tourism markets, in addition to freight-specific costs and benefits. However, the Commission agrees with the Airports Association and Christchurch International Airport that this inquiry should examine the effect of ASA liberalisation on air freight services.

ASA liberalisation does not necessarily lead to more freight capacity

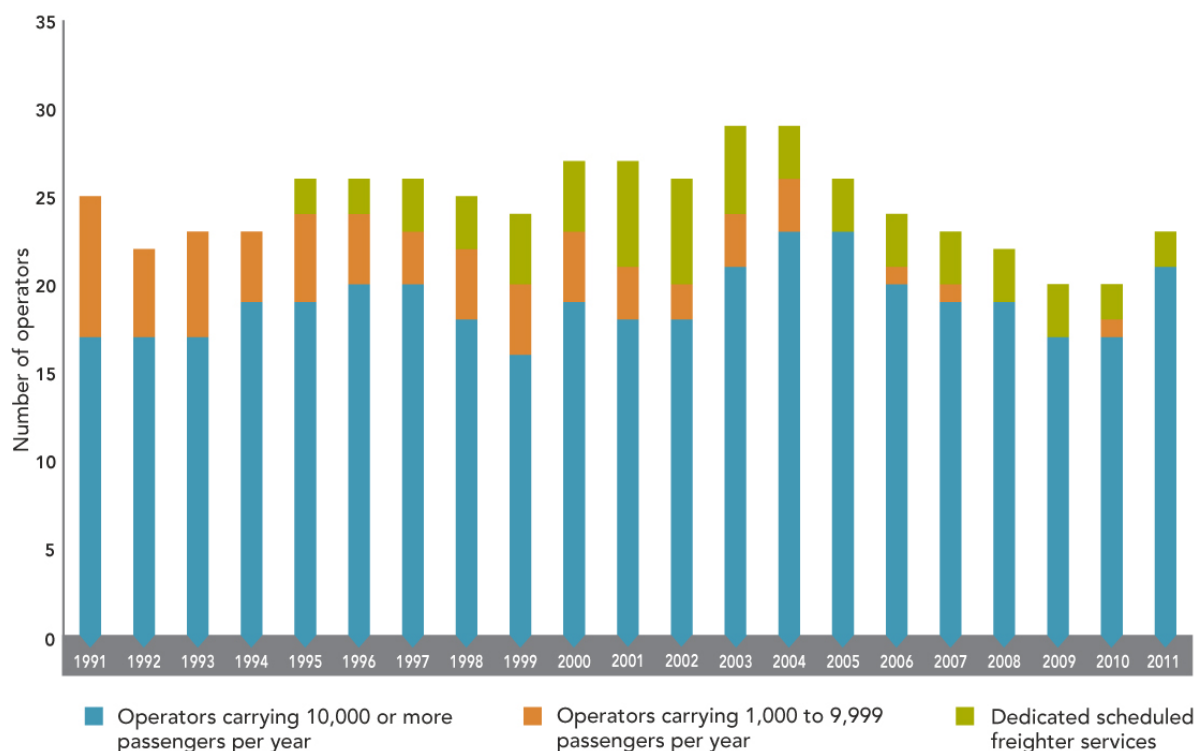
Recent international studies have found evidence that more liberal ASAs are associated with an increase in the amount of passengers and freight that are transported by air (Zhang and Zhang, 2002; Grosso and Shepherd, 2010), and a decrease in transport costs (Micco and Serebrisky, 2006).

However, the evidence of a beneficial effect of liberalisation is not clear for New Zealand. One recent New Zealand empirical study finds that liberalisation of air transport has not had a significant effect on passenger flows into New Zealand (Garcia, 2009). That study does not consider the impact of liberalisation on freight, but the effect on passenger traffic would suggest a similar effect on bellyhold freight capacity on passenger aeroplanes.

¹⁴⁵ The Ministry of Transport also notes that dedicated freighter services are able to operate for a limited time as non-scheduled charters under s.87ZE of the Civil Aviation Act, outside any capacity or route restrictions in an air services agreement (sub. DR058).

In addition, while the number of ASAs has more than doubled since 1991 (Table B.1, Appendix B), the number of large airline operators has not grown, but has fluctuated:

Figure 12.1 Number of airline operators in New Zealand: 1991-2000



Source: Ministry of Transport

Notes:

1. Cargo-only carriers operating in New Zealand during this period are as follows: Lufthansa 2001–2003; Singapore Airlines cargo 2001 to present; Tasman Cargo Airlines (formerly Asian Express) 1997 to present; Cargolux 1999–2010; Polar 1995–2003; and Evergreen 1995–2001.

Liberalisation can still address constraints in important freight routes

Although the effect of liberalisation on New Zealand freight levels is not clear at an aggregate level, there are certain country-to-country agreements with capacity limits that appear to be constraining supply. These include agreements with China, Hong Kong, India, Indonesia and France.

For example, the New Zealand government's memorandum of understanding with China allows seven passenger services per week (although there is no limit for dedicated cargo flights). The passenger capacity limits for the ASA with China have been reached in recent months, so that no additional flights can be made without an existing airline reducing its services, or governments increasing the ASA capacity limits.

Christchurch International Airport (CIAL) considers that the constraints of particular agreements are real and problematic:

Communication with a number of international airlines leads CIAL to believe there is interest in launching new routes to Christchurch from both China and other Asian countries. CIAL is aware of three airlines who are interested in launching a service to Christchurch, but who are currently unable to progress any expansion under existing ASAs.

Christchurch International Airport, sub. DR86, p. 20

CIAL is also concerned that some ASAs limit the routes that can be flown. It provides examples of route restrictions with respect to Indonesia, India, China and South Korea that affect South Island importers and exporters (Christchurch International Airport, sub. DR86, p. 22).

Regulatory constraints on supply and routes affect the efficiency of air freight. On the supply side, airlines are restricted in their ability to establish the most efficient network of flights. On the demand side, route restrictions limit the ability of exporters and importers to access new and larger markets for their goods.

However, the government must weigh up a number of factors when negotiating air services agreements. For example, New Zealand may opt to restrict the rights of foreign airlines to access New Zealand airports, so that it has 'bargaining coin' for securing access for New Zealand airlines to other countries. This weighing of factors should be as explicit as possible, and should account for freight-specific costs and benefits.

R12.1

The Government should account for freight-specific costs and benefits whenever it considers changes to air services agreements or new air services agreements.

12.3 Improving the way competition between airlines is regulated

The current competition regime for international air services should be improved. The international air services market and the international regulatory framework for air services have changed significantly since the current competition regime was established. Competition regimes in other countries have evolved over time in response to these market and regulatory developments, but New Zealand's competition regime for international air services has remained the same.

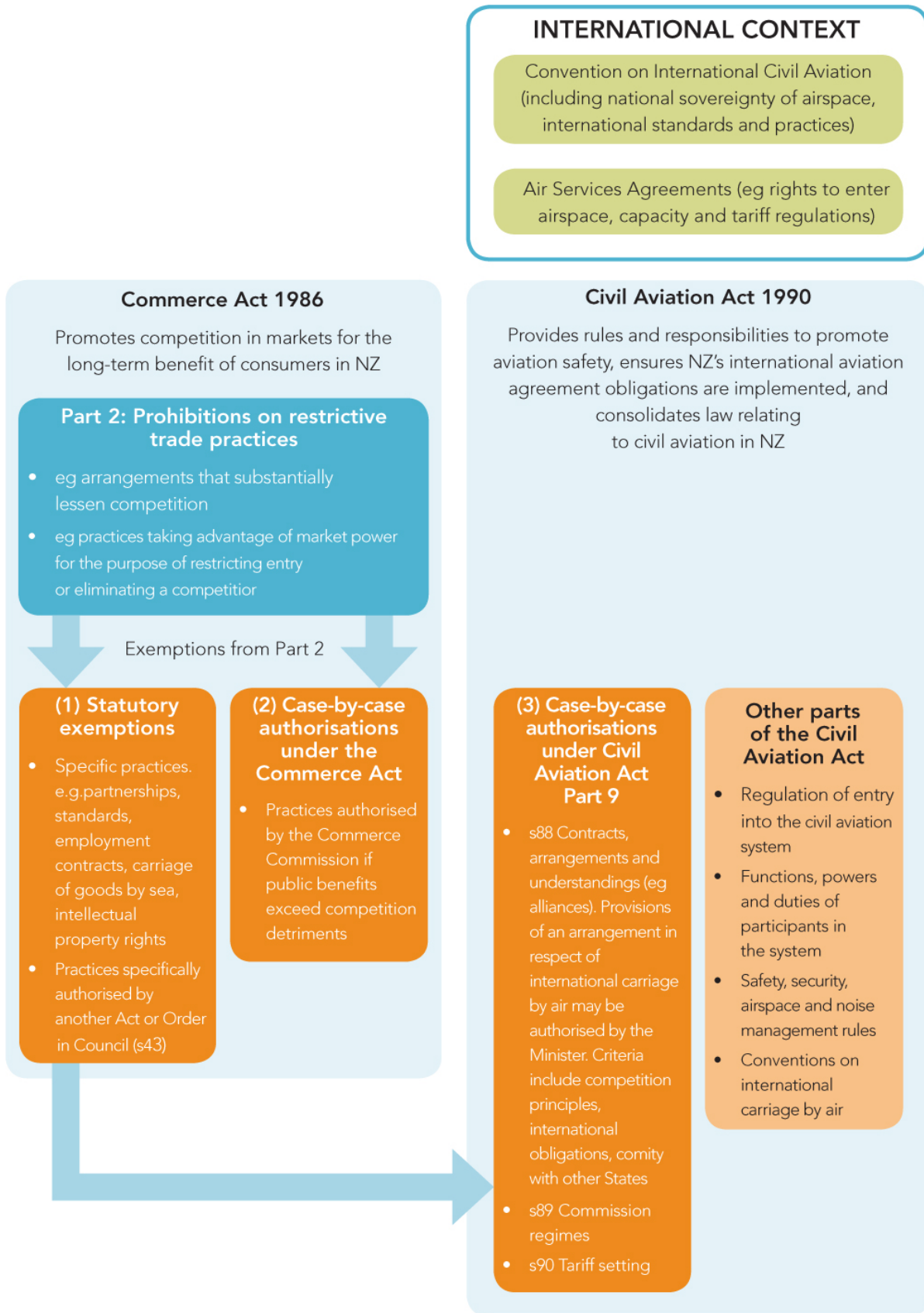
Competition is regulated by the Civil Aviation Act and the Commerce Act

Competition in international air services is regulated in New Zealand by both Part 9 of the Civil Aviation Act 1990 and the Commerce Act 1986.

The Commerce Act regulates competition in markets in New Zealand, including markets for international air services. However, certain international air services trade practices can be exempted from the Commerce Act's prohibitions on restrictive trade practices if they meet criteria in Part 9 of the Civil Aviation Act and are authorised by the Minister of Transport.

Figure 12.2 provides a broad-brush view of the New Zealand competition regime for international air services.

Figure 12.2 Framework for New Zealand’s regulation of international air services competition



Notes:

- Commerce Act authorisations exempt trade practices from certain provisions of Part 2 of the Act, rather than all of Part 2.

The figure indicates the role of New Zealand’s international obligations and agreements, with respect to the administration of its airspace and the conduct of its international air services. One objective of the current competition regime is to incorporate consideration of these obligations and agreements into competition assessments.

Part 9 of the Civil Aviation Act regulates three different types of trade practice:

- 'Contracts, arrangements and understandings' relating to international carriage by air, which have typically taken the form of alliances or code-share agreements between airlines.
- 'Commissions' for air travel or air cargo. This refers to the commissions that travel agents and cargo agents charge airlines for booking passengers or cargo onto aircraft.¹⁴⁶
- 'Tariffs' in respect of international carriage by air. Authorised tariffs can be used to set the price of air carriage (but are not mandatory).

Section 88 regulates contracts, arrangements and understandings

S.88 provides that the Minister of Transport may from time to time specifically authorise all or any provisions of an arrangement in respect of international carriage by air. To be authorised, provisions of an arrangement must also relate to the fixing of tariffs, the application of tariffs, the fixing of capacity, or any combination of these.

S.88 also provides criteria for the Minister to consider when deciding whether to authorise provisions of an arrangement. These criteria include a requirement for the Minister to consider New Zealand's international obligations and comity with other states. Box 12.1 provides the full set of criteria.

Box 12.2 Authorisation criteria

The statutory requirements for considering authorisations under s.88 of the Civil Aviation Act are listed below:

s.88(2) The Minister may from time to time specifically authorise all or any provisions of a contract, arrangement, or understanding made between 2 or more persons in respect of international carriage by air and related to such carriage so far as the provisions relate, whether directly or indirectly, to the fixing of tariffs, the application of tariffs, or the fixing of capacity, or any combination thereof.

s.88(3) In considering whether to grant authorisation under subsection (2), the Minister shall ensure that the granting of such authorisation will not prejudice compliance with any relevant international convention, agreement, or arrangement to which the Government of New Zealand is a party.

s.88(4) Subject to subsection (5), authorisation shall not be given under this section to any provision of any contract, arrangement, or understanding that—

(a) provides that any party to it may directly or indirectly enforce it through any form of action by way of fines or market pressures against any person, whether or not that person is a party to the contract, arrangement, or understanding; or

(b) has the purpose or effect of breaching the terms of a commission regime issued under section 89; or

(c) unjustifiably discriminates between consumers of international air services in the access they have to competitive tariffs; or

(d) so far as it relates to tariffs, has the effect of excluding any supplier of international carriage by air from participating in the market to which it relates; or

(e) has the purpose or effect of preventing any party from seeking approval, in terms of section 90, for the purpose of selling international carriage by air at any other tariff so approved; or

(f) prevents any party from withdrawing without penalty on reasonable notice from the contract, arrangement, or understanding.

s.88(5) Notwithstanding the provisions of subsection (4), the Minister may authorise any provision

¹⁴⁶ As an indication of the size of these commissions, IATA Cargo Tariff Coordinating Conference resolutions specify 5% commission rates for IATA registered cargo agents and 2.5% for general cargo sales agents (ACCC, 2010a, p.45).

of any contract, arrangement, or understanding under this section if the Minister believes that to decline authorisation would have an undesirable effect on international comity between New Zealand and any other State.

Source: Civil Aviation Act 1990

S.88 states that a Ministerial authorisation is a specific statutory authorisation for the purposes of s.43 of the Commerce Act, and hence exempt from Part 2 of the Commerce Act.

The most recent significant use of s.88 is the 2010 authorisation of a trans-Tasman alliance between Air New Zealand and Virgin Blue. The Minister of Transport authorised this alliance following advice from the Ministry of Transport, which reviewed the statutory requirements for authorisation and assessed the costs and benefits of an alliance. Appendix B reviews this authorisation in more detail.

Trade practices that are not authorised by the Minister of Transport are subject to the competition regime in Part 2 of the Commerce Act. Part 2 prohibits anti-competitive conduct and restrictive trade practices.

The Commerce Commission may still authorise a trade practice, even if the Minister of Transport has declined to authorise it under the Civil Aviation Act. Part 5 of the Commerce Act allows for the Commerce Commission to grant specific authorisations for restrictive trade practices, if it is satisfied that the public benefit of the practices outweighs the detriment arising from any potential reduction in competition.

Section 89 regulates cargo and airfare commissions

S.89 of the Civil Aviation Act provides for the Minister of Transport to issue, amend or revoke 'commission regimes'. These commission regimes, once issued, have the effect of exempting cargo commissions from Part 2 of the Commerce Act.

Commission regimes for air freight are not currently an important part of the international freight markets serving New Zealand. The Ministry of Transport's submission notes:

The Ministry has had virtually no recent involvement in issues relating to the cargo commission regime. Our understanding is that, except for one-off cargo shipments and interlining, cargo rates are largely set by negotiation. This is not surprising given the general surplus of belly-hold freight capacity. Although comprehensive work was done by the Ministry in the early 1990s that led to the approval of the then IATA [International Air Transport Association] passenger-related system, the same was not done with respect to the IATA cargo system.

Ministry of Transport, sub. 46, p. 11

However, Air New Zealand considers that commission regimes may have an important role in the future:

The current legal proceedings issued by the Commerce Commission have highlighted the divergence in attitude to New Zealand's international obligations between the Commerce Commission and the Minister of Transport. Cargo commission regimes have been referred to in similar proceedings and investigations such as that by the European Commission. In our view, the Ministry of Transport is likely to have need in future of the powers in section 89 to authorise commission regimes. Such regimes are still provided for under a number of ASAs, particularly those that require compliance with IATA tariff setting processes.

Air New Zealand, sub. 47, p. 14

Air New Zealand argues that the Minister of Transport remains the appropriate person to consider commission regimes, but the New Zealand Airports Association disagrees:

For its part NZ Airports is of the view that the Commerce Commission is the expert party that should be responsible for monitoring any agreements that may potentially affect market competition or include established pricing arrangements (as distinct from unauthorised collusion).

New Zealand Airports Association, sub. 41, p. 23

Section 90 regulates tariffs

S.90 of the Civil Aviation Act provides for the Minister of Transport to authorise a tariff (ie, the price and price conditions) in respect of international carriage by air, where the point of departure or destination is New Zealand. As with commission regimes, an authorised tariff is exempt from Part 2 of the Commerce Act.

Authorisation of tariffs is not mandatory, and is not currently used very frequently. The Ministry of Transport submission comments:

Section 90 is still used to approve some tariffs filed by airlines, although these primarily relate to the carriage of passengers rather than cargo. Decisions are generally made under delegated authority by an official in the Ministry of Transport. The section's use is far less than it was in the past.

Ministry of Transport, sub. 46, p. 12

However, Air New Zealand still considers that the authorisation process is important:

[s.90] is routinely used to approve tariffs which are required by ASAs to be filed with the Ministry of Transport. Such tariffs may represent a small part of airlines' revenues as market driven fares very greatly dominate in the commercial environment. Nevertheless the filing of tariffs approved by overseas regulators remains an obligation of airlines and failure to do so leaves them vulnerable to the kind of technical, capricious proceedings by the Commerce Commission currently being defended at the cost of tens of millions of dollars to New Zealand taxpayers.

Air New Zealand, sub. 47, pp. 14-15

An alternative competition regime is the Commerce Act only

An alternative competition regime for international air services would be a Commerce Act regime only, with no recourse to a specific industry regime in Part 9 of the Civil Aviation Act. A Commerce Act-only regime would look like the left-hand side of Figure 12.1, in that it would cover the Commerce Act provisions and exclude the Civil Aviation Act. This would remove any legislative requirements to consider New Zealand's international air services obligations.

Under this alternative, airlines and other industry players would need to apply for case-by-case authorisations for alliances, code-share agreements, commission regimes, or any other potentially restrictive trade practice via the standard Commerce Commission authorisation procedure.¹⁴⁷

There are few other models for alternative competition regimes. Most of the competition regimes in other countries are variants of the Civil Aviation Act regime or the Commerce Act-only regime. Air New Zealand considers that the United States competition regime is closest to the status quo in New Zealand (sub. 47, p. 11).

Submissions argued for and against the current Civil Aviation Act competition regime. Arguments in favour of the current regime noted that there is still a need to address international obligations; that the Commerce Commission authorisation process is costly and restrictive; and that the Ministry of Transport has the relevant expertise (Aviation Industry Association, sub. 23, p. 9; Air New Zealand, sub. 47, p. 10).

In opposition, several submitters argued that the Commerce Commission has the expertise for competition assessments and the benefit of independence from Ministers, and noted that there is a reduced need to address international obligations (Auckland International Airport, sub. 38, p. 13; New Zealand Airports Association, sub. 41, pp. 22-23; Christchurch International Airport, sub. DR86, p. 25; New Zealand Chambers of Commerce, sub. DR64, p. 19).

¹⁴⁷ The Commerce Act regime may change shortly. The Commerce (Cartels and Other Matters) Amendment Bill was introduced in Parliament on 13 October 2011. The Bill proposes to replace Commerce Act provisions relating to price fixing with a new cartels regime, with certain exemptions including an exemption for 'collaborative activity', and to enable persons to apply to the Commerce Commission for clearance that the collaborative activity exemption applies. This Bill is described in more detail in Box 11.3 of Chapter 11.

A Commerce Act regime is likely to provide a better cost-benefit analysis

An assessment of whether to retain or amend the current competition regime or adopt a Commerce Act-only regime should be based on the following criteria:

- ensuring the authorisation process for trade practices is based on a comprehensive analysis of the costs and benefits of trade practices;
- ensuring the authorisation process has sufficient regard to New Zealand's international air services obligations;
- ensuring the authorisation process is transparent and provides applicants and stakeholders with sufficient opportunities to make their case;
- minimising the direct cost to government and affected parties; and
- minimising the indirect cost of chilled commercial activity (ie, efficiency-enhancing commercial activity that is not undertaken because of a concern by businesses that it would fall foul of the competition regime).

The most important criterion is the need to ensure that the authorisation process is based on a comprehensive analysis of the costs and benefits of the trade practices. Drawing on recent OECD guidance (OECD, 2005), a comprehensive analysis would include:

- gathering sufficient information to assess and, if practicable, quantify the costs and benefits of trade practices;
- coordinating with other overseas authorities in the review of international trade practices;
- providing transparent and publicly available rules, policies, practices and procedures for the authorisation process; and
- evaluating previous decisions to improve authorisation processes and decision-making over time.

The comprehensiveness of the analysis needs to be balanced against the need to avoid unnecessary costs and burdens on affected parties and third parties.

A comprehensive analysis of costs and benefits will maximise the likelihood that efficiency-enhancing trade practices are authorised, and minimise the likelihood that harmful forms of coordination are authorised. This has a direct effect on market efficiency, including freight services efficiency. This effect is likely to be larger than the administrative costs of authorisations.

A Commerce Act-only regime is likely to provide a more comprehensive assessment of the costs and benefits of the trade practices that are proposed for authorisation. In particular, a Commerce Act-only regime would benefit from specialist Commerce Commission resources, including:

- guidelines such as the Mergers and Acquisitions Guidelines (which also draw on judicial interpretations of key competition concepts and practices);
- economic and legal staff who specialise in competition assessments; and
- good working relationships with overseas competition authorities.

A Commerce Act-only competition regime would also be more transparent than the current Civil Aviation Act regime. Unlike the Commerce Commission authorisation process, the Minister of Transport is not required to publish draft authorisation decisions under the Civil Aviation Act and seek submissions on these draft decisions.¹⁴⁸

¹⁴⁸ It should be noted that the Ministry of Transport did adopt a transparent process for reviewing two large trans-Tasman alliances. This included an initial round of public consultation, but did not include consultation on a draft decision.

In addition, a Commerce Act-only regime would be in line with current Australian practice (see Box B.1 of Appendix B). Aligning New Zealand regulation with Australia's should reduce compliance costs for businesses that apply for authorisations in both jurisdictions.

A Commerce Act regime is more costly but the analysis is more comprehensive

The current regime is probably less costly to administer than a Commerce Act-only regime for international air services. The Civil Aviation Act regime may also be less costly for the applicants and other stakeholders participating in the authorisation process. The authorisation process under the Commerce Act can sometimes be a lengthy one.

However, the additional costs of the Commerce Act-only regime are due to the extra time the Commerce Commission takes to assess the competition effects of proposed trade practices, and to consult stakeholders on this. This extra time and effort is likely to result in a more comprehensive and thorough analysis.

The Commerce Commission also notes that it has recently improved the authorisation process. It has established a streamlined process for some applications and is also "committed to determining authorisation applications in a timely fashion, having regard to the market issues under consideration" (Commerce Commission, sub. 35, p. 2).

In addition, the comments in the Chapter 11 discussion of the sea freight exemptions apply here:

- Parties in most other industries face these same costs in respect of Commerce Act authorisations.
- A Bill in Parliament provides for a Commerce Commission 'clearance regime' for certain collaborative activities. The clearance process should be cheaper (both in terms of direct and indirect costs) and more timely than the authorisation process.

The cost of changing competition regimes is an important consideration, and Air New Zealand argues that the cost of changing regimes is not justified:

The potential for disruption and additional cost in removing the regime and requiring Commerce Act authorisation is not justified. The introduction of the Commerce Act would *probably* require authorisations to be gained under the Commerce Act for all existing arrangements that have been authorised under the Civil Aviation Act after some initial transitional period. This would impose a huge cost on the international airline industry in New Zealand.

Air New Zealand, sub. 47, p. 13

The Ministry of Transport also notes:

Any change of responsibility would require careful consideration of matters such as grandfathering of existing approvals, whether tariff approvals should be subject to different treatment than integrated alliances, and whether categories of arrangements should be considered for block exemptions.

Ministry of Transport, sub. 46, pp. 10-11

The current regime has a stronger focus on civil-aviation policy

A feature of the current Civil Aviation Act regime is that it requires the decision-maker to consider New Zealand's international obligations and international comity. While international obligations and international comity are less important considerations for international air services competition on some more liberalised routes, some bilateral arrangements are still highly regulated. This indicates that civil aviation policy considerations are still important in assessing airline coordination proposals on some routes.

However, civil aviation policy considerations do not appear to be essential to the current competition regime for air services for several reasons:

- The Civil Aviation Act authorisation regime is optional. Businesses seeking an exemption from Commerce Act prohibitions can bypass the Civil Aviation Act and seek a Commerce Act authorisation directly from the Commerce Commission.

- The Australian competition regime operates without specific legislative requirements for considering civil aviation policy objectives.
- Other highly regulated markets in New Zealand are still subject to the Commerce Act's prohibitions.

The Commerce Commission has advised that it could take into account international civil aviation obligations in a Commerce Act authorisation process, if these obligations were described in a submission. The Commerce Commission would assess the net national benefits of fulfilling these international obligations to varying extents. The government can also provide the Commerce Commission with a statement of economic policies, and the Commerce Commission must have regard to these under s.26 of the Commerce Act.

However, the focus on civil aviation policy under a Commerce Act regime would not be as strong as under the current regime, where consideration of international obligations and comity is expressly required by the Civil Aviation Act.

The Government should consider adopting a Commerce Act-only regime

From a freight efficiency perspective, a Commerce Act-only regime is the most effective way of regulating competition in international air services. A Commerce Act-only regime provides for comprehensive analysis of costs and benefits of trade practices, and this in turn ensures authorisation decisions that should maintain or improve freight services efficiency.

However, changing the competition regime for international air services will have a significant impact on passenger services. As these passenger services are outside the scope of this inquiry, the Government would need to separately review the impact on passenger services before making any decision to adopt a Commerce Act-only regime.

The Commission considers that such a review of passenger service impacts is worthwhile. There is a prima facie case that the Commerce Act-only regime would promote efficiency in both passenger services and freight services. This case is based on the following observations:

- A Commerce Act-only regime would comprehensively analyse passenger-specific impacts as well as freight impacts. In particular, it would identify the benefits for passengers of any increase in air services that result from a proposed trade practice. It would also assess whether the trade practice would reduce competition and lead to higher airfares for passengers.
- Passenger and freight user impacts are closely connected. A trade practice that increases the number of passenger flights will also increase the amount of bellyhold freight capacity that is available.
- The relative costs of providing authorisations under the Civil Aviation Act or the Commerce Act would not depend on whether an authorisation decision focuses on passenger services or freight services. This is because the steps in the authorisation process do not change based on the type of market that it considers.

R12.2

Subject to a review of the passenger-specific impacts, the Government should consider adopting a Commerce Act-only regime for regulating international air services.

If the current competition regime is retained, it should be improved

If the Government decides to retain the current regime, it should make changes to Part 9 of the Civil Aviation Act to improve the assessment of the benefits and costs of trade practices that come under ss.88 and 90 of the Civil Aviation Act, and commission regimes under s.89 of the Act. This assessment should include the impact of the proposed trade practices on competition.

Under this revised Part 9 competition regime, the Ministry of Transport would continue to be the principal advisor to the Minister of Transport, and would either undertake its own competition assessment or commission an external assessment. This competition assessment should be consistent with the general

procedures and approach of the Commerce Commission, in order to benefit from the Commerce Commission's experience in reviewing the effect of trade practices on competition.

Several submissions argued that if the current regime is improved in this way, the Commerce Commission should undertake the competition assessments rather than the Ministry of Transport or an external consultant (New Zealand Airports Association, sub. DR96, p. 3; Auckland Airport, sub. DR79, p. 6; CIAL, sub. DR86, p. 25).

There is a potential problem in using the Commerce Commission in this way. If the Commerce Commission provides the Minister of Transport with a competition assessment and the Minister declines to authorise a trade practice, the applicants may choose separately to seek an authorisation under the Commerce Act. This would require the Commerce Commission to provide a second competition assessment under a different authorisation process and different legislation. The second assessment could not be truly independent and it would therefore be better to keep the Commerce Commission out of the Ministry of Transport-led process in the current regime.

This problem would be removed if the Government removed the ability of a business to apply to the Commerce Commission for authorisation, if the business's application had previously been considered by Minister of Transport. In that case, the Commerce Commission could potentially be enlisted to provide a competition assessment for the Minister of Transport.

If the Government decides to retain the current regime, it should also improve the process for ministerial decisions under Part 9 of the Civil Aviation Act, by providing for public consultation as part of assessments of the benefits and costs, and by publishing authorisation decisions under s.88 and s.90 (s.89 commission regimes are already required to be gazetted). The requirement to consult as part of assessments of the benefits and costs of proposals and publish authorisation decisions is desirable for transparency, and to provide an added incentive to conduct assessments that are rigorous enough to withstand public scrutiny.

R12.3

If the Government decides to retain Part 9 of the Civil Aviation Act, it should amend Part 9 to:

- require the Minister of Transport to have regard to an assessment of the benefits and costs of trade practices that are proposed for authorisation under s.88 or s.90 of the Act, and commission regimes that are proposed under s.89;
- require an assessment of the costs arising from any potential reduction in competition as part of each assessment of benefits and costs;
- require public consultation on the assessment of benefits and costs where the trade practice or commission regime is likely to reduce competition; and
- require the publication of s.88 and s.90 authorisations that are granted.

13 Other regulatory issues

This chapter looks at regulatory issues that do not naturally fit in previous chapters. It covers: domestic freight transport issues (including subsidies, cabotage and high-productivity motor vehicles); the regulation of airports and seaports (including access for competing suppliers); and the collection of freight information for better decision making. The external effects of freight transport are also examined.

Key points

- The 'Pay As You Go' road funding methodology does not inherently subsidise road users.
- 'Cabotage' (which limits domestic coastal shipping to domestic operators) should not be reintroduced. Coastal services offered by international shipping lines are valuable to New Zealand shippers.
- High-productivity motor vehicles (HPMV) offer significant opportunities to lift productivity in the road freight sector. However, funding arrangements appear to be impeding these opportunities.
- The information disclosure regime for airports has not been in place long enough to be properly tested as a means of regulating their potential exercise of market power.
- More information on freight movements in New Zealand – collected and made available on a regular basis – would have considerable value.

13.1 Domestic freight transport issues

Domestic freight provides the key link at the start or finish of international logistic chains and can be a significant proportion of overall transport costs (see Chapter 4).¹⁴⁹ Central and local governments are involved in domestic transport services (rail), infrastructure (road and rail), and in the regulation of private domestic transport providers.

This section looks at some issues that were raised in submissions. They are subsidies, cabotage and high-productivity motor vehicles.

Domestic freight transport subsidies

Some inquiry participants commented on the existence of subsidies to one or more domestic transport modes (see Box 13.1).¹⁵⁰ The Commission has not examined domestic transport subsidies in detail and confines itself to a few observations to aid further analysis and discussion.

Some common arguments are:

- Road freight is subsidised, as under the 'Pay As You Go' (PAYGO) methodology users are not explicitly charged a rate of return on past road infrastructure investment.
- The Ministry of Transport's *Surface transport costs and charges* report (Booz Allen Hamilton, 2005b) and the NZTA's *Coastal shipping and modal freight choice* report (Rockpoint, 2009) show that road is subsidised.

¹⁴⁹ For example, Hyder Consulting (2008) reported the indicative cost and time to ship a 20-foot container from Singapore to an Auckland port and then on to a Christchurch depot. The domestic leg cost between 37% and 58% of the overall transport cost (depending on whether coastal, rail or road was used from Auckland to Christchurch).

¹⁵⁰ Determining the level of subsidies across transport modes is difficult. For example, road infrastructure is used for both passenger and freight transport so there may be cross-subsidies from one group to another. Furthermore, few externalities are priced, and most are difficult to estimate.

- Rail is subsidised by the government as it does not make an acceptable rate of return on the capital invested.

How much do domestic freight modes compete with each other?

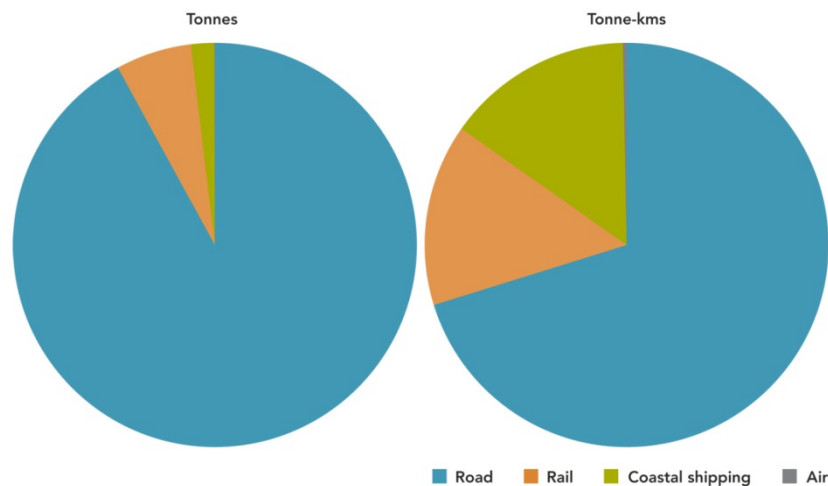
On routes where shippers have a choice of different modes, it is desirable that shippers choose the mode that imposes the least costs on society (for the required service quality). If subsidies distort these choices they are a potential impediment to economic efficiency.

However, the nature of road, rail and coastal shipping mean they mostly serve separate markets:

- Road is best suited to time-sensitive and short-haul freight, but it competes with rail and coastal shipping for long-haul freight. It serves customers directly and can access much more of New Zealand's land area than rail.¹⁵¹ It is the quickest of the three freight modes, as it minimises handling and has high service frequencies. It is also a complement for both rail and coastal shipping, delivering to and from the port or railhead.
- Rail is best suited to bulky, heavy products and/or long-distance freight. A high proportion of rail tonnage is to and from industrial plants, mines and ports (Booz Allen Hamilton, 2005a). Rail can be a complement to coastal shipping, connecting inland production to ports (Rockpoint, 2009).
- Coastal shipping is best suited to bulky, heavy, long-distance, non time-sensitive freight. It is not suited to short-distance freight because of handling costs and the inaccessibility of inland routes. The low frequency of services combined with the need for multiple handling means that in general it is the slowest form of transport.

Figure 13.1 presents the domestic freight task by mode from the *National freight demand study 2008* (Richard Paling Consulting, 2008). Road had the largest share of the domestic freight task.

Figure 13.1 Domestic freight task by mode: 2006-07



Source: Richard Paling Consulting (2008)

Mackie, Baas and Manz (2006) estimate that only 21% of the overall freight task (by tonnage) is contestable by rail.¹⁵² This means the majority of freight that travels by road is not contestable by rail. This is because of rail's limited accessibility, the time-sensitive nature of the road freight, and the large number of short road trips. However, most freight currently traveling by rail is contestable by road.

¹⁵¹ Mackie, Baas and Manz (2006) point out that New Zealand has 3898km of railway line compared to approximately 90,000km of road. Large parts of the South Island have no rail.

¹⁵² "If all of the increases came from road then the proportion of [the then] current road freight that is contestable by rail is 3.6%-8.4%... [The 7% figure is calculated as follows:] In summary, 42% of freight travels between rail compatible regions. Of this proportion, 70% of this freight is estimated to be accessible to a suitable railway line. Of this proportion, 70% freight is considered not to be 'time sensitive'. When all of these factors are combined, 20.6% of all freight could potentially travel by rail. Currently approximately 13% of freight travels by rail, which means that the contestable share of freight is currently being transported by truck is approximately 7%." (Mackie, Baas and Manz, 2006, p.32).

Rockpoint (2009) estimates that only 8% of the overall freight task (in tonnage) is contestable by coastal shipping. Rail is coastal shipping's closest competitor. An example of this is between Auckland and Christchurch which is served by rail and coastal shipping (as well as road).¹⁵³ On this route, coastal shipping and rail have market shares of 38% and 42.7% respectively (Rockpoint, 2009). However, this does not mean that rail's entire market share is contestable by coastal shipping. The high cost difference between rail and coastal shipping (see Table 4.6) suggests that rail customers place a high value on the characteristics of rail (eg, the higher frequencies of service between Auckland and Christchurch).

PAYGO is not inherently a subsidy

Some argue that road freight is inherently subsidised as under the PAYGO methodology users are not explicitly charged a rate of return on past road infrastructure investment. However, this argument is not correct. The Commission agrees with the Australian Productivity Commission's response to similar concerns:

Capital costs are fully recouped under a PAYGO approach. Under a pay-as-you-go approach... capital spending is recovered in the period in which it occurs. This means that users of roads, rather than road providers, effectively fund the investment. In principle, therefore PAYGO does not subsidise freight infrastructure users compared with an approach where users are charged an amount each year that covers asset depreciation and a return on capital.

Australian Productivity Commission (2006, p.xxxii)

Another argument is that road infrastructure that predates the PAYGO system should earn a return on capital. The Australian Productivity Commission also responded to this concern:

While heavy vehicle road users do not pay an explicit return on historical road assets under PAYGO, they pay in full for new road assets that will provide a stream of services into the future. In contrast, under a lifecycle approach, users would pay an explicit return on existing assets but would only pay a fraction of the costs of any new investments.

Australian Productivity Commission (2006, p.79)

For example, over the next 10 years road users will fund investment in the roads of national significance. NZTA states that "our programme of works will result in an additional 588 kilometres of state highway, around 10,306 metres of bridge structures and 5500 metres of tunnels, as well as numerous other structures and traffic services assets." (New Zealand Transport Agency, 2011d, p.53).

Also, PAYGO was introduced in New Zealand in the 1960s.¹⁵⁴ So many of the historical assets that predate PAYGO will have been replaced and paid for in full by road users.¹⁵⁵ For example, the useful life of state highways' pavement surface is seven years and of the pavement base is 50 years.¹⁵⁶

Various government reports are incorrectly used as evidence of subsidies to road

The Ministry of Transport's *Surface transport costs and charges* report (Booz Allen Hamilton, 2005) and NZTA's *Coastal shipping and modal freight choice* report (Rockpoint, 2009) are sometimes incorrectly used as evidence of subsidies to road. Both studies include an estimate of the return required on the depreciated replacement cost of the network. But, as described above, this approach is inconsistent with the logic of PAYGO.¹⁵⁷

Rail subsidies or inefficient past investment?

Another argument is that rail is subsidised by the government as it does not make an acceptable rate of return on the capital invested (including land and infrastructure).

¹⁵³ The Commission heard a number of arguments that coastal shipping is disadvantaged compared to road and rail. However, as described above, coastal shipping usually does not usually compete with road.

¹⁵⁴ Road User Charges for Heavy Vehicles were introduced in 1978 following the RUC Act 1977.

¹⁵⁵ If investment is uneven over time PAYGO can create inter-temporal subsidies between users. For example, during a period of expansion current users pay increased charge. Future users after this period will enjoy the investment without having to pay for it.

¹⁵⁶ TRANSIT New Zealand (2004).

¹⁵⁷ The studies also have a number of other limitations. For example, Booz Allen Hamilton (2005b) is equivalent to a social cost benefit analysis where the only benefit is road user charges. While negative externalities of roads are counted, the full benefits of roads are not. Also the data are from 2001/2002 and are now dated.

It is correct that a number of studies have found that rail generates an insufficient return on capital. For example, Rockpoint (2009), valuing rail assets at depreciated replacement cost, found that "...consolidated rail operating revenues ... represent less than half the calculated revenue requirement" (Rockpoint, 2009, p.191).¹⁵⁸

However, while not making an acceptable rate of return is an indication there could be a current subsidy, it is not proof of one. Other possible reasons for a low rate of return include inefficient past investment because of a past subsidy, or past investment that seemed like a good investment but that did not succeed.

It is important that the sole focus is not on evaluating whether past investment should have occurred but what the optimal strategy is going forward (eg, would it be better to exit, downsize, expand, or maintain?).¹⁵⁹ Decisions for rail need to be forward looking. To do this the Government must have a clear understanding of the irreversibility of past (and future) investment, the valuation of land, and the costs of abandonment. It must also be transparent about the expected return on future investments and whether past investments are written off. In Chapter 9 the Commission recommends that the Government seek ways to improve the transparency of decision making around rail infrastructure projects, including the publication of cost-benefit analyses (see Recommendation 9.2). This would help inform public debate and to reach efficient investment decisions.

Box 13.1 Some participants' views on subsidies for roads, rail and coastal shipping

Pacifica Transport Group

Level the playing field for privately-owned transport operators, who compete against state-owned enterprises for the same freight, over the same sector. While the state entity receives huge taxpayer subsidies, the privately owned coastal shipping operator gets zero assistance. Neutralising this anomaly will encourage private enterprise into the coastal market, at minimal start-up cost as compared to rail or road.

Private investment will not occur unless the competitive market place is made more equitable for all transport modes. Currently it is an extremely 'tilted' playing field with rail paying approximately 60% of its actual infrastructure and imposition costs and road paying around 50%. By contrast coastal shipping pays 100% of its costs. (sub. 11, pp. 6-7)

Port Companies of New Zealand

The Government needs to be certain its investment and pricing policies for road and rail freight are rationally based, otherwise there will be a loss of efficiency. It also needs to ensure that coastal shipping services are able to compete with road and rail on a fair basis. Port companies are not presently convinced that current road, rail and coastal shipping policies have created a level playing field. (sub. 31, p. 8)

New Zealand Shippers' Council

While there may be a case for some government investment in rail infrastructure (at least in the short-term), rail services should operate without the need for operating subsidies. Policies and funding decisions that favour one mode over another should be avoided ... policies and funding decisions that favour coastal shipping should be avoided. (sub. 43, p. 12)

Ports of Auckland

POAL does not believe there is a level playing field with regard to investment and pricing policies across the supply chain. At the moment, road does not pay its way. This is to the disadvantage of coastal shipping in particular. (sub. 50, p. 20)

¹⁵⁸ Some of the limitations of these studies for road also apply to rail.

¹⁵⁹ The Booz Allen Hamilton (2005b) analysis is somewhat forward looking. By separating out sunk from non-sunk capital the analysis can be used to look at whether the business should continue to operate. It found that 2001/2002 rail freight revenues (\$328 million) were sufficient to cover recurrent costs and rolling stock replacement (\$287 million), but did not fund an adequate economic return when total recoverable assets (including land and other infrastructure assets) were included (\$400 million). Including a return on sunk infrastructure would have required revenues of over \$700 million.

Coastal shipping and cabotage

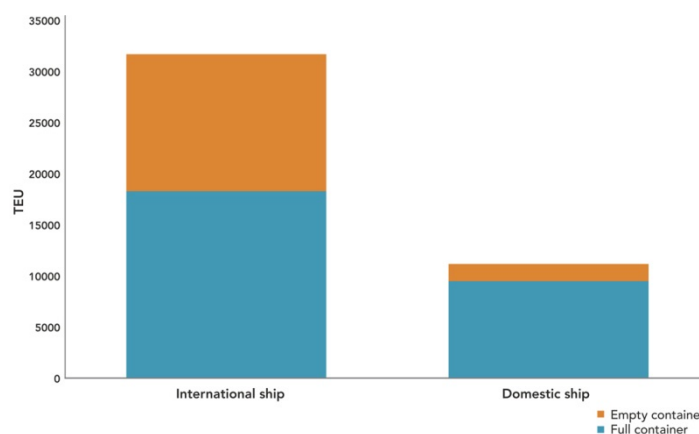
Cabotage limits domestic coastal shipping to domestic operators. In New Zealand, cabotage has been partially removed. The Maritime Transport Act 1994 (s.198) allows international operators to compete on coastal routes against domestic operators, providing they do so as part of an international voyage and do not operate in New Zealand longer than a continuous period of 28 days.

Cabotage potentially affects four classes of cargoes:

1. Domestic freight: From a domestic port to domestic port;
2. Export transshipments: From a domestic port then transhipped at another domestic port and then exported;
3. Import transshipments: Imported to a domestic port then transhipped at another domestic port; and
4. Empty container repositioning.

The Ministry of Transport's first *Quarterly container information report* for July-September 2011 (Ministry of Transport, 2012) reported the coastal movements of containers on international and domestic ships. The report shows that international ships services carry 74% of containerised cargo around the New Zealand coast. Figure 13.2 shows that international ships reposition a large number of full (including both transhipped and domestic loads) and empty containers.¹⁶⁰

Figure 13.2 Coastal movements for international and domestic ships: July-September 2011



Source: Ministry of Transport from *Quarterly container information report* data (July-September 2011)

Notes:

1. Data are for only five ports: Ports of Auckland, Port of Tauranga, Port of Napier, Port Taranaki, Port Nelson.
2. Coastal movements include both domestic and transhipment movements.
3. TEU = twenty foot equivalent. A 20ft container is one TEU, a 40ft container is two TEUs.

It has been argued that domestic coastal operators do not compete on a level playing field with international operators (NZ Shipping Federation, sub. DR81). For example, international operators may be exempt from paying New Zealand income tax (some of New Zealand's double tax agreements exempt profits from coastal cargo); they can employ low-cost foreign labour whose wages are exempt from New Zealand income tax; they have no GST compliance costs; they do not need to adhere to a range of other domestic regulations and are not subject to levies under New Zealand's Emissions Trading Scheme. The Commission agrees that domestic coastal operators face competitors that enjoy lower costs in a number of areas. However, this situation is similar to that faced by other New Zealand industries that compete internationally against foreign-produced goods and services.

¹⁶⁰ The first *Quarterly container information report* collated data from only five ports (Ports of Auckland, Port of Tauranga, Port Taranaki, Port of Napier and Port Nelson). All ten container ports are now providing data.

The main cost advantage that international operators have is that they have to cover only the incremental cost of coastal cargo, where domestic operators have to also cover their fixed costs. This advantage comes from the economies of scale and scope of joint production.¹⁶¹ This allows international operators to offer lower prices which benefits New Zealand shippers. International operators also benefit from the increased utilisation of their capacity. Under cabotage this spare capacity would be wasted, which would be productively inefficient.¹⁶²

The coastal services provided by international operators are valuable to New Zealand shippers. Reintroducing cabotage would be likely to result in a decrease in competition and an increase in costs and prices. For these reasons the Commission does not support the reintroduction of cabotage.

F13.1

Cabotage should not be reintroduced as the coastal services provided by international shipping lines are valuable to New Zealand shippers.

High productivity motor vehicles

High productivity motor vehicles (HPMV) are a class of vehicle that are allowed to exceed standard length and mass limits (New Zealand Transport Agency, 2011f). They have the potential to significantly increase the efficiency of road transport¹⁶³ and generate large economic benefits.¹⁶⁴ However, the Commission heard that there are barriers to the issue and uptake of HPMV permits.

Limited availability of routes and a complex permit process

The NZTA has stated that “just over half of the 1082 applications were either declined or pending, primarily because of the limited availability of routes with confirmed bridge capacity” (New Zealand Transport Agency and Ministry of Transport, 2010, p.3).¹⁶⁵

The Road Transport Forum also raised concerns about the complex permit process (Road Transport Forum, sub. 55, pp. 8-9).

In its submission to the draft report the NZTA stated:

On High Productivity Motor Vehicles (HPMVs) the NZTA is seeing significant freight productivity gains being made from greater route access. The NZTA is aware of industry aspirations for greater HPMV access and the progressive opening up of routes remains a priority for us. The NZTA is working closely with freight transport operators to: develop new HPMV designs that are safer and more efficient, identify priority HPMV routes for investment, and streamline the HPMV permitting process. We are also working with local government who are responsible for local road HPMV access.

NZTA, sub. DR100, p. 5

Funding additional maintenance and infrastructure

HPMV operators are required to have a permit from road-controlling authorities (mostly local councils for local roads, and the NZTA for the state highway network).

Some councils are concerned about the increased road maintenance costs due to HPMVs and how infrastructure upgrades, needed to make routes suitable for HPMVs, will be funded. For example, Waikato Regional Council pointed out that the new vehicles impose pressures on local roads, which were not designed for such vehicles, and both renewal and maintenance needs of these roads are increasing (sub. 5,

¹⁶¹ For international ships, carrying freight domestically can be thought of as a by-product of carrying freight internationally.

¹⁶² More resources would be needed to produce the same output.

¹⁶³ One example is trucks that carry containers of kiwifruit for Zespri from packhouses to ports. The kiwifruit are packed on pallets and 22 pallets fill a 40-foot container. However, without an HPMV the containers – one per truck – are limited to a load of 21 pallets to conform within weight limits. Because of cost, the containers are not repacked to full at ports. Using HPMV would also reduce the number of containers that Zespri needs to ship to its overseas markets.

¹⁶⁴ The Regulatory Impact Statement for HPMV claimed an increase in GDP of between \$250-500 million and productivity increases between 10-20%. Other estimated benefits included reduced fuel costs (by about 20%), reduced carbon dioxide emissions (\$1 million p.a.), and improved road safety through reduced truck movements (reduction by about 130,000 trips per year) (Ministry of Transport, 2010c).

¹⁶⁵ An independent review (by Stimpson and Co.) that was commissioned by NZTA and the Ministry of Transport.

p. 10).¹⁶⁶ Auckland Council stated that significant improvements are required to cater for HPMVs in Auckland and most of these bottlenecks are bridge upgrades (sub. DR60, p.10).

There appears to be a funding mismatch for HPMVs. Councils face increased costs from HPMVs (maintenance and upgrades) but increased revenues from road user charges that go to the National Land Transport Fund. This discourages local authorities from issuing HPMV permits and limits the availability of routes.

NZTA is aware of the issue:

Some local councils have expressed concern over the potential cost of strengthening bridges and the potential impact of additional wear and tear on road surfaces as a result of heavier truck movements. Other local councils that have approved HPMV travel have not noticed any discernible increase in road maintenance costs. The NZTA is working with local councils by responding to specific concerns as they arise and to determine the extent of any costs that might arise, and how these costs might be met.

New Zealand Transport Agency (2011e, p.3)

F13.2

The uptake of high-productivity motor vehicles (HPMV) is constrained by the reluctance of some councils to issue HPMV permits and fund upgrades to routes. Their reluctance is understandable, as under current arrangements they face significant upgrade and maintenance costs, without a corresponding increase in road funding.

R13.1

The Government should examine ways to share the increased road user charge revenue from high productivity motor vehicles with councils, so as to encourage the local road upgrades required to support these vehicles.

13.2 Regulation of airports and seaports

Airports and ports have natural monopoly characteristics.¹⁶⁷ Because of this it is often efficient to have at most one major airport and port in each city/region. However, this can lead to concerns about the use of market power to raise prices and reduce efficiency. A natural monopoly may also use its market power to limit competition in potentially competitive downstream markets that require access to its infrastructure.

The government may choose to regulate if prices are too high because of the lack of competition. Regulation can focus on the prices charged by the natural monopoly to its customers ('final product regulation'), or on how the natural monopoly deals with firms who seek access to its infrastructure ('access price regulation'). As Forsyth (1998, p.289) points out, final product regulation and access price regulation are to an extent substitutes.

If access to monopoly facilities ... is easy for all competitors, it may not be necessary to regulate the final product. When the final product is regulated, it may not be important to ensure easy access to monopoly facilities, since regulation (imperfectly) takes the place of competition.

If an airport or port does not have market power then final product regulation or access price regulation is not needed.

¹⁶⁶ Modelling work and case studies done to date indicate that the overall pavement maintenance impact of HPMVs will be low on most roads. The impact may be higher on roads built to a lower standard than state highways and most local roads. However, these roads do not usually handle significant volumes of heavy vehicles. The NZTA has commissioned research on the cost implications of HPMV travel on structures such as bridges. Early conclusions from this work are that maintenance cost impacts on structures are likely to be low (New Zealand Transport Agency and Ministry of Transport, 2010).

¹⁶⁷ They require: large irreversible infrastructure investments; have economies of scale because of their high fixed costs; usually have high barriers to entry because of planning regulations (like the RMA) and their specific locational requirements (eg, deep harbours for ports, large land area close to population for airports).

This section examines:

- how airports are regulated and if more or less regulation is needed;
- if seaports should be regulated; and
- how access to airport and/or seaport infrastructure could be regulated.

Regulation of airports

In 2008 Auckland, Wellington and Christchurch airports were made subject to 'information disclosure' regulation.¹⁶⁸ Information disclosure is the most light-handed form of regulation in Part 4 of the Commerce Act.¹⁶⁹ It seeks to influence the regulated firm's behaviour by making information about their performance public.¹⁷⁰ The collected data can also be used to see if stronger regulation is needed.

These airports are now required to disclose a large amount of tightly specified information about their operations, including some details on freight activities. Pricing disclosures were required in September 2011. Annual performance disclosures for the 2011 financial year are required during the first half of 2012. A Commerce Commission review of the effectiveness of the information-disclosure regime will be triggered when an airport sets a new price during or after 2012.

Air New Zealand (sub. 47) and the Board of Airline Representatives (sub. 36) submitted that they believe the regime will be ineffective in constraining market power, and argue that airports should be subject to the stronger regulation, like negotiate/arbitrate:

The planned regulation of monopoly pricing under the Commerce Amendment Act provisions is for now, targeted only at "information disclosure" – at best a weak attempt to embarrass airports into moderating their pricing aspirations. To date, even this is hamstrung in complex litigation and although technically in force, the information disclosure regime is having no apparent effect. Wellington Airport for example recently notified its claim for an approximate 70% increase in annual aeronautical revenues.

Once the information disclosure regime fails to affect airports' behaviours, as it will, it will be a matter of years before an effective regime can be implemented under the progressive steps required by the Commerce Amendment Act.

Air New Zealand, sub. 47, p. 6

BARNZ has serious doubts that the Commerce Commission regulation (which comprises annual information disclosure by the airports and monitoring by the Commission based on pre-specified input methodologies) will be sufficient to restrain monopoly pricing by airports which wish to continue doing so...

BARNZ considers that airports need to be made subject to stronger regulation under Part 4 of the Commerce Act – namely negotiate/arbitrate regulation. Without this, airports are simply able to dismiss the input methodologies as only applying to information disclosure and not needing to be followed for pricing purposes (where airports continue to have the right to set charges as they think fit under s.4A of the Airport Authorities Act) and are able to continue to set charges which enable monopoly profits to be earned.

Board of Airline Representatives New Zealand, sub. 36, pp. 5,6

This is contrasted with the view of the Airports Association:

Airports have been and remain concerned that at the heart of the Commerce Commission's monitoring of the information disclosure regime for financial information is a de facto price cap approach where the Commerce Commission will assess actual airport outcomes against input methodologies that have

¹⁶⁸ S.56–56A of the Commerce Act. This regulation followed a 2002 Commerce Commission's Airport Price Inquiry and a 2007 review by the Ministry of Economic Development.

¹⁶⁹ The others are negotiate/arbitrate regulation, default/customised price-quality regulation, and individual price-quality regulation.

¹⁷⁰ The Commerce Commission's determination may require suppliers to disclose certain specified information relevant to their performance (such as financial statements, prices and quality performance measures), including forward-looking information (such as forecasts and asset management plans). This can help reveal evidence of excessive prices or operational inefficiencies.

been established by the Commerce Commission. The de facto price cap approach arises because the Commerce Commission will compare airports revenues to its own methodologies, which include a methodology for cost of capital which is not required to be applied by airports. This is of concern because price cap approaches have been shown to stifle investment.

New Zealand Airports Association, sub. 41, p. 16

While the Commission notes the airlines' concerns, it does not believe the information disclosure regime should be changed at this time. The regime is yet to take practical effect, and it is likely to be a year or more before it is possible to properly assess whether there is a market power problem, or whether the regime has been effective.¹⁷¹

F13.3

The inquiry has not reviewed whether airports are exerting market power over freight services providers. The forthcoming review of the information disclosure regime for airports under the Commerce Act will address this question.

Regulation of seaports

New Zealand ports are not currently regulated under Part 4 of the Commerce Act. This section looks at whether information disclosure regulation should apply to ports.

In 2002, the Ministry of Economic Development undertook a review of ports' market power (Ministry of Economic Development, 2002).¹⁷² The review focused mainly on concerns raised by port customers including excessive fees, excessive returns, cross-subsidisation, and lack of transparency in port pricing (eg, how these prices related to port costs). Three regulatory options were considered: a Commerce Commission inquiry; an information-disclosure regime; and a mandatory dispute-resolution regime. The review concluded that the "New Zealand port industry is generally competitive and that the market power of ports is limited" and recommended no regulatory intervention. (See Box 13.2 for additional information on the Ministry of Economic Development's advice to Ministers.)

Box 13.2 Ministry of Economic Development advice to Ministers

Commerce Commission inquiry

Officials do not recommend the Minister of Commerce direct the Commerce Commission to undertake an inquiry into port companies' market power. An inquiry, while having the benefit of providing a rigorous quantitative analysis of port companies' returns and guidance on appropriate valuation methodologies, would also impose significant costs. (p.8)

Information disclosure

Officials do not recommend introducing an information disclosure requirement as difficulties in targeting the particular transactions of concern could result in distortionary effects where competition is workable and effective, would not necessarily provide useful information to captive customers and would impose additional compliance costs. (p.9)

Mandatory dispute-resolution regime

Officials do not consider alternative disputes resolution regimes are desirable. Voluntary mediation can be entered at any time by commercial parties. It does not require government intervention. Mandated ADR regimes could result in significant costs. (p.10)

No intervention

Officials consider that maintaining the status quo is a legitimate policy option given the

¹⁷¹ Airport charges will be largely driven by passenger traffic considerations rather than freight. A full review of market power of airports would have been outside the scope of this inquiry.

¹⁷² This review is 10 years old and may be dated.

deficiencies associated with other options and the limited nature of the problem. (p.11)

Source: Ministry of Economic Development (2002)

The Commission has not conducted a detailed analysis of whether ports have market power. However, it notes that:

- Competition between the Ports of Auckland and Port of Tauranga is considered to be strong in container cargoes, especially given that both have developed inland ports (intermodal freight hubs) that extend their reach into overlapping hinterlands (Employers' and Manufacturers' Association, sub. 7; Pacific Marine Management, sub. 51).
- There is some evidence of competition in the hinterland between ports for bulk cargo (eg, the Port Napier and Port of Tauranga competing for bulk forestry cargo).
- The analysis in Chapter 4 suggests that New Zealand ports' charges are lower than Sydney's.¹⁷³
- Shipping lines and large shippers (eg, Kotahi) are likely to have some countervailing market power.

Information-disclosure regulation of ports is also likely to be costly. Each type of cargo (container cargo and the different forms of bulk cargo) has its own handling requirements and often its own specialised port equipment. As a result, information disclosure requirements may need to be tailored to each type of cargo.¹⁷⁴

F13.4

If the market power of ports becomes a concern, the Commerce Act provides for the Commerce Commission to undertake a Part 4 inquiry – either on its own initiative or at the request of the Government. Such an inquiry would look at whether regulation is needed, and if so, what form it should take.

Access regimes

Airports and ports are made up of large infrastructure assets with natural monopoly characteristics and other services that connect to them. For example, a port is made up of infrastructure (channels, docks etc.) and other services, including pilotage, towage, stevedoring and marshalling. Ports can provide these services directly (vertical integration) or can allow other service providers to compete to supply these services (potentially against the vertically integrated firm).¹⁷⁵ Vertical integration can be used for anti-competitive reasons or because it is more efficient.¹⁷⁶ (See Box 13.3 for examples of the degree of vertical integration in New Zealand ports and airports).

An infrastructure owner with market power may look to limit competition in markets that require access to its infrastructure. This allows it to potentially extract rents from the downstream markets.¹⁷⁷ It may do this by not allowing access to a competitor (or choosing an access price that is so high it prevents entry). This allows its own downstream firm to earn extra profits. Or it may allow access to more efficient competitors and extract rents (and efficiency savings) by either setting a high access price or by contracting them as suppliers and selling the service to their customers. Requiring the firm to provide access at an appropriate price would allow competition in the potentially competitive market, leading to lower prices.

¹⁷³ In addition, the EVA analysis in Chapter 3 suggests that port companies have not recovered their cost of capital (based on their 2008 asset values).

¹⁷⁴ However, this does not mean that current information reporting by ports is sufficient for more general governance purposes. Chapter 10 recommends improving ports' reporting and transparency.

¹⁷⁵ Stevedoring and marshalling are generally considered to be potentially competitive activities, whereas other services such as pilotage and towage may be more efficiently provided by a single party.

¹⁷⁶ Coordination problems may make vertical integration more efficient. For example, an infrastructure owner may find the logistics of arranging several independent suppliers more costly than dealing with a division of its own firm. Competing suppliers may also increase congestion, especially at small ports.

¹⁷⁷ A natural monopoly in one part of the production chain can lead to the monopolisation of the whole industry.

If an infrastructure owner does not have market power, it has strong incentives to compete on price. This could involve them supplying the downstream service themselves (if they are the most efficient). Or they may allow access to more efficient competitors or contract them as suppliers.

As noted in the previous two sections, the Commission has not conducted a detailed analysis of whether airports or ports have market power. This section looks at options for regulating access if market power became a concern in the future.

Box 13.3 Vertical integration in New Zealand airports and ports

Airports

There is no vertical integration in New Zealand's air freight services between airports (infrastructure owners) and terminal operators (service providers). The two Cargo Terminal Operators (CTOs) that provide cargo or ground handling services at Auckland and Christchurch airports (Air New Zealand and Menzies) compete to provide services to airlines. However, access to airport infrastructure is affected by the prices charged to CTOs (including rental for freight facilities).

Seaports

New Zealand ports have adopted different strategies to provide services. Some ports see competitive benefits in the full integration of services, while others achieve cost reductions and competitive positioning through allowing access to competing suppliers. For example, Appendix F compares the provision of stevedoring services across New Zealand ports. In part, the opportunity to allow access to competing suppliers depends on the physical configuration of the port. For example, the number of marshalling services may be constrained by the port's layout.

S.36 of the Commerce Act

If infrastructure owners are unwilling to grant access, parties that are refused access may seek remedies (including injunctions) under the Commerce Act provided that s.36 of Act has been breached. S.36 of the Commerce Act states that a party with a substantial degree of market power must not take advantage of that market power to:

- restrict the entry of a person into that market or any other market;
- prevent or deter a person from engaging in competitive conduct in that market or any other market; or
- eliminate a person from that market or any other market.

S.36 has been successfully used in the New Zealand ports sector. In *Port Nelson v Commerce Commission* (1996), the port was found to have breached s.36 by requiring purchasers of pilotage services (a natural monopoly) to also use the port's tugboats (a competitive service).

Despite this case, significant difficulties remain in using s.36 to require access to infrastructure in order to provide a competitive service. S.36 requires proof that the infrastructure owner has the purpose and intent of taking advantage of market power, which can provide a difficult threshold for challenging the decision of an infrastructure owner to refuse access.

Information disclosure may increase bargaining power of access seekers

The information disclosure provisions of Part 4 of the Commerce Act could be used to improve the bargaining power of access seekers. This intervention would require ports and airports to release information that is relevant to access seekers (in addition to the general information disclosure requirements already applied to airports). However, making information disclosures relevant to access issues would be difficult. The disclosures would need to contain unbundled charges that identify the charges at different points of connection to infrastructure, and would need to be divided into specific activities (such as passenger and freight transport for airports). The approach would therefore impose significant costs on

infrastructure owners, without actually requiring any change in the decisions made in response to access requests.

Access regulation

The reluctance of an infrastructure owner to provide access can be overcome through regulation that mandates access (access regulation). Three possible ways to regulate access are:

- **General infrastructure access.** Based on a case-by-case assessment. An access seeker would apply to the regulator, who would decide whether access should be 'declared'. If access is declared the access seeker can enter into negotiations with the infrastructure owner. These negotiations are backed up by compulsory arbitration.
- **Negotiate-arbitrate regulation.** Like the general infrastructure access but a specific sector or asset type is automatically declared. This bypasses the need for a case-by-case evaluation of the costs and benefits of access by the regulator. The access seeker has the right to initiate negotiations with the infrastructure owner. These negotiations are backed up by compulsory arbitration.
- **Structural separation.** The firm is split up. Prices in the natural monopoly segments are regulated and all other services are opened to competition.

These three regulatory regimes are described in more detail in Box 13.4.

The choice of access regime depends on the severity of market power, the risks of too much or too little access, and transaction costs (see Box 13.5). Furthermore, the choice of the access regime is only one step in encouraging efficient access. The price (or terms) of access must also be set. If the access price is set too low then it may favour the new entrants and also deter future infrastructure investment. If the access price is set too high then it will not encourage competition. Determining the optimal access price (ie, the price that maximises total welfare) can be difficult.¹⁷⁸

Box 13.4 Possible access regimes

General infrastructure access regime

Australia has developed a general access regime for natural monopoly infrastructure under Part IIIA of the Competition and Consumer Act (CCA). Under Part IIIA, the Australian Competition and Consumer Commission (ACCC) 'declares' infrastructure if the access request meets the following two tests (among others):

- (1) the infrastructure is uneconomical to duplicate (a natural monopoly test); and
- (2) access would promote a material increase in competition in at least one other market.

If the ACCC declares infrastructure, access seekers have the right to enter into negotiations with the infrastructure owner. These negotiations are backed up by a compulsory arbitration regime if negotiations are unsuccessful.

The US also has a general access regime through the application of the 'essential facilities doctrine'. This applies similar tests to Part IIIA of the CCA, although the tests are based on judicial decisions rather than legislation. The leading case is *MCI Communications Corp. v AT&T* (1983).

Negotiate-arbitrate regulation

The practical effect of applying negotiate-arbitrate regulation is to have all relevant infrastructure automatically 'declared' (in the language of Part IIIA in the Australian CCA). In South Australia and Victoria port operators are required to negotiate in good faith to provide access to port facilities,

¹⁷⁸ See, for example, Guthrie (2006).

based on a level playing field between all competing third-party access seekers. If this is not achieved, the state legislation (the Maritime Services Access Act 2000 in South Australia and the Port Services Act 1995 in Victoria) contains an arbitration framework. To date, no disputes have been referred to arbitration in either South Australia or Victoria. Similar provisions have been also used to ensure access to bulk-handling facilities.

Structural separation of infrastructure ownership and service provision

The strongest intervention would require structural separation of infrastructure ownership and service provision. For example, legislation could be developed to prohibit port owners from carrying out port operations – a port authority or port corporation would then own the port land and infrastructure, and port operations would be carried out by other service providers. Structural separation could be partial (with the port owner retaining an interest in some port operations) or complete (removing the port owner from all interest in port operations).

New Zealand has used structural separation in electricity and telecommunications. The electricity sector was structurally separated under the Electricity Industry Reform Act 1988 (EIRA). This forced the separation of monopoly electricity transmission and distribution from competitive generation and retail activities. Telecom was structurally separated to facilitate the Government's broadband investment policy. A co-investor in the fibre network cannot also offer retail services.

Box 13.5 Risks of the various access regimes

Access regulation comes with risks and transaction costs:

- Risk of granting too much access: Access is granted when it is inefficient to do so. This leads to higher coordination costs (eg, by creating scheduling conflicts for use of the infrastructure). The infrastructure owner may also have less incentive to invest in new infrastructure.
- Risk of granting too little access. Access is refused when it would be more efficient to grant access – for example, where competition between service providers would lead to lower cost and prices (provided the efficiencies are not offset by increased coordination costs).
- Transaction costs include the costs of administering the regulatory regime, monitoring outcomes, and compliance costs.

Section 36 of the Commerce Act currently sets a relatively high threshold for access by requiring evidence that refusing access represents an abuse of market power. This means that there is a low risk of too much access; and a high risk of too little access because access seekers may not be willing to bring a claim, even if access would unlock efficiencies or lead to investment in complementary assets. Access seekers also face significant transaction costs to establish that access should be granted.

A **general infrastructure access regime** is more likely to lead to a decision to grant access than the tests currently applied under s.36. Therefore this will likely increase the risk of too much access and would reduce the risk of too little access. A general access regime would provide a more transparent process for parties seeking access to infrastructure by specifying clear tests based on principles of efficient access. This type of access regime should not result in access being granted where other sector arrangements (such as vertical integration) are more efficient, and still requires the parties to negotiate or arbitrate the terms of access once access has been declared. Transaction costs for a general access regime would likely be comparable or slightly higher than the status quo. These costs would, however, be borne through a regulatory process for having the infrastructure 'declared', rather than through litigation under s.36 of the Commerce Act. The general access regime in Australia has been criticised

for imposing high costs on the parties to an access application (Ergas, 2009).

A **negotiate-arbitrate access regime** would substantially increase the risk of too much access by establishing a legal requirement for access negotiations. New investment in infrastructure would need to be based on a business case that enabled third parties to compete with the infrastructure owner to provide services – potentially reducing the incentives to invest. A negotiate-arbitrate regime would virtually eliminate the risk of too little access. This would ensure competition for all services that rely on infrastructure access. It would also provide a high level of certainty for investments in services that rely on infrastructure access. By removing the need for regulatory hearings or litigation, a negotiate-arbitrate regime would reduce transaction costs. If the terms of access were contentious, then using the backstop arbitration regime would increase transaction costs. However, these costs would still be lower than a dispute over access that is followed by a dispute over terms.

With **structural separation** an infrastructure owner is prevented from competing in downstream and upstream markets. This means that any benefits from vertical integration can no longer be achieved. Conversely, competition in downstream markets is not complicated by the involvement of the infrastructure owner as a service provider – and downstream service providers should be able to compete and invest on equal terms. Structural separation imposes transitional costs (which may be substantial) as the assets and operations of the infrastructure owner are detached from the assets and operations of the related service provider. It may also impose ongoing coordination costs (eg, over complementary investments). However, other transaction costs should be lower once structural separation is complete because access decisions are not scrutinised by courts or a regulatory body. Structural separation is usually used in industries that have very strong natural monopoly characteristics.

Voluntary access

The Commission has not conducted a detailed analysis of whether airports or ports have market power and therefore does not reach a recommendation on the introduction of an access regime specifically for ports and airports. However, there are potential efficiency benefits from ports and airports voluntarily allowing access to their facilities by competing suppliers. In particular, competition between service providers can drive efficiency improvements and lower prices and/or improve service quality. Port and airport owners can benefit directly from these outcomes.

Most airports support multiple, competing cargo terminal operators. In comparison, within-port competition is mostly limited to bulk cargo stevedoring and marshalling (see Box 13.3 and Appendix F). There is scope for the further introduction of competing service providers at New Zealand seaports, in particular for container stevedoring and marshalling. If council-owned ports are not set up to focus on commercial success, they may overlook these potential gains.

R13.2

Port and airport companies should periodically review the extent they allow access to their facilities by competing suppliers. Competitive provision can improve productive efficiency and customer service

13.3 Collection of freight information

Information (such as freight movements, infrastructure investment plans, and future demand) can help freight participants make better individual and joint decisions.¹⁷⁹ It can also help policy-makers design and

¹⁷⁹ The government as an infrastructure provider needs to estimate the demand and the likely costs and benefits of particular projects. It also needs to be aware of the plans of other major infrastructure providers such as ports companies and airports. Businesses that are investing in ports, airports or other freight-transport components benefit from better information about government infrastructure plans and the likely future demand and supply of freight services.

evaluate policies and regulations. Chapter 9 examined why collecting and sharing information is important. This section looks at what information should be collected and shared.

According to the National Freight Demand Study, both the government and some private sector stakeholders consider that a richer information base would improve their decisions (Richard Paling Consulting, 2008, p.5). A number of submissions to this inquiry support this:

We are aware of significant gaps in transport information and data, and in particular in respect of freight and other commercial vehicle numbers by category, freight volumes, purpose of commercial trips... Accordingly, we strongly agree that there needs to be a focus on statistical data collection of road/rail and sea freight volumes and categories....The bottom line is that for sensible, well informed infrastructure investment decisions to be made we need regular, timely and reliable data collection measures in place.

New Zealand Chambers of Commerce, sub. DR64, p. 7

Auckland Airport supports the Commission's view that additional information on freight movements in New Zealand that is collected and made available on a regular basis would have considerable value to key stakeholders in the value chain... Auckland Airport currently has little information on/visibility about air freight volumes including business volumes and forecast date. More access would only be positive, allowing us to better plan for the future requirements of the industry. Such access could be provided in a way that would ensure commercial confidentiality for individual companies

Auckland Airport, sub. DR79, p. 5

The gathering of useful information which supports the government and participants in the supply chain to coordinate thinking is desirable as long as its use is clear.

CentrePort Wellington, sub. DR94, p. 4

Reliable and comparable information on performance (like those on port productivity presented in Chapter 3) could help to promote good governance by incentivising boards and management. This is particularly relevant for publicly owned freight-transport operators such as ports and airports (see section 10.1).

This section looks at various freight-information-gathering initiatives. It covers the 2008 *National freight demand study*, the new Freight Information Gathering System (FIGS), and the Transport Monitoring Indicator Framework.

National freight demand study

The *National freight demand study* (Richard Paling Consulting, 2008) was commissioned by the Ministry of Transport, the Ministry of Economic Development and Land Transport New Zealand (now part of the NZTA).

Its goal was to assist with the planning and development of the New Zealand transport network, and to provide a base for monitoring freight movements over time. It was an important contribution to understanding trends in New Zealand's domestic freight volumes and values by product type, as well as inter-regional flows. The study was a one-off exercise and was mainly forward-looking from base year 2006/07. It required gathering a lot of primary information. This highlighted not only the challenges in such information gathering, but also the lack of the necessary systems for ongoing collection.

NZTA submitted that it has commissioned independent research on practical cost-effective methods to collect ongoing domestic freight information (sub. DR100). The Commission supports this type of research, noting that the wide use already made of the *National freight demand study* is an indicator of its value.

Freight Information Gathering System

The Ministry of Transport's Freight Information Gathering System (FIGS) is the most comprehensive recent initiative to address shortcomings in New Zealand's freight-related data. Unlike the *National freight demand study* – which was a one-off study to help forecast future demand – FIGS involves the ongoing collection of freight volume data.¹⁸⁰ FIGS' focus is on domestic and international containerised cargo movements in New

¹⁸⁰ FIGS developed from some initial Ministry of Transport work on freight information in relation to coastal shipping and ports.

Zealand. The first quarterly container information report (July-September 2011) from FIGS was released in March 2012.¹⁸¹

The Commission supports the intent of the Ministry of Transport's FIGS initiative including plans to expand it to look at bulk freight movements (and potentially look at the domestic supply chain in more detail). A proposal to extend FIGS should be developed, and should include a regulatory impact analysis that estimates the benefits and costs. A number of ports were concerned with the compliance costs they may incur (see Box 13.6).

Transport Monitoring Indicator Framework

Both the Ministry of Transport and the New Zealand Transport Agency (NZTA) undertake transport research and maintain transport databases. One example is the Transport Monitoring Indicator Framework.¹⁸² The Commission supports including container productivity data in the Ministry of Transport's Transport Monitoring Indicator Framework as it may promote better governance.

Box 13.6 Mandatory versus voluntary information gathering

FIGS is currently voluntary and the Ministry of Transport has stated that there are no plans to make it mandatory. Various submissions expressed differing views about whether information gathering should be mandatory.

Pacific Shipping's submission favoured mandatory information gathering:

[FIGS] is a step in the right direction. However, unless mandatory regulations are put into place it is highly unlikely that road and state-owned rail operators will willingly provide detailed data about their freight movements.

Pacific Shipping, sub. 11, p. 8

The New Zealand Chambers of Commerce submission highlighted problems with voluntary information gathering:

In our experience in assisting the preparation of various transport plans and strategies, we have become aware of data gaps in existing transport planning models and research reports because certain sectors refused to supply information as it was voluntary.

New Zealand Chambers of Commerce, sub. DR64, p. 13

PrimePort Timaru's submission argued against mandatory information gathering. It noted that ports already cooperate with the Ministry of Transport and that real-time end-to-end supply chain information helps to increase utilisation of the transport infrastructure, but considered that this was sufficient:

Mandatory requirements would inevitably lead to unnecessary and costly exercises for ports and other parties and could be commercial damaging. The commercial parties involved in the logistics chain have the ability to ascertain costs at each stage.

PrimePort Timaru, sub. 12, p. 14

Similarly, the Port of Napier raised concerns about compliance costs for ports:

The Port is concerned as to the extent of any extension to the Freight Information Gathering System without the detail of what is required. Likewise the 'efficiency test' would need to be independent and not increase compliance costs on ports.

Port of Napier, sub. DR93, p. 18

¹⁸¹ It collated data from Ports of Auckland, Port of Tauranga, Port Taranaki, Port of Napier and Port Nelson. All ten container ports are now providing data into FIGS. The October-December 2011 quarterly report will be published shortly.

¹⁸² <http://www.transport.govt.nz/ourwork/TMIF/Documents/TMIFV2%20FINAL.pdf>

R13.3

The Ministry of Transport should develop a proposal to extend the Freight Information Gathering System and subject the proposal to a regulatory impact analysis 'efficiency test', to determine whether it would deliver net benefits beyond existing information collection and dissemination.

13.4 External effects of freight transport

The production of goods and services can impose unpriced costs on people outside the business producing them. These are often referred to as 'external costs' or 'negative externalities'.

The freight logistics chain can generate a number of external costs – for example, environmental impacts (see Table 13.1). These costs are largely managed through government regulations, which have the effect of pushing the external costs (in part or full) onto the firms that produce them (eg, Emissions Trading Scheme)¹⁸³ or by applying standards (eg, noise restrictions).

The government's management of external costs can influence the productivity of firms within the freight logistics chain, as well as the efficiency with which factors of production are allocated within the economy.¹⁸⁴ If regulation is too stringent, more resources will be dedicated to controlling the external cost than is warranted and productivity will suffer. If regulations are too lenient, society will be left to carry the burden of the external costs. This can impact wellbeing through, for example, reducing the community's enjoyment of environmental assets or increasing risks to public health. Appendix C provides an overview of the key mechanisms used in New Zealand to address the external costs arising from the major freight transportation modes.

In considering the regulation of external costs, the Commission focused on issues raised by submitters. These were the impacts of:

- the Resource Management Act 1991 on investment in transport infrastructure;
- the Climate Change Response Act 2002: specifically, the impact of the New Zealand Emissions Trading Scheme (New Zealand ETS) on freight activities; and
- the European Emissions Trading System (the EU ETS) on New Zealand exports to and imports from Europe.

The Resource Management Act is discussed in detail in Chapter 8. The New Zealand ETS and the EU ETS are discussed below.

Table 13.1 External costs from international freight transport

External cost	Description
Greenhouse gas emissions	Arise from road, rail, sea and air transportation. Consumption of fossil fuels leads to the emission of greenhouse gases that contribute to climate change.
Noise	Arises from road, rail and air transportation. Heavy vehicles, trains and planes can cause noise disturbances, particularly in urban and residential areas. External costs are greater during the night-time than daytime.

¹⁸³ These may be passed on to end consumers – that is, the external costs are (partially or fully) 'internalised'.

¹⁸⁴ The presence of an external cost does not necessarily mean that government action is required. In considering the need for action, it is important that governments take into account: a) the cost of developing and implementing policies to manage the external cost; and b) the social benefits that are derived from the goods and services that produce the external cost. Therefore, managing negative external costs involves weighing up the social benefits and costs of action.

External cost	Description
Accidents	<p>Arise from road, rail, sea and air transportation. Some of the external costs associated with accidents are internalised through insurance; however, residual costs to society will remain due to 'moral hazard' and other problems.¹⁸⁵</p> <p>[Note: The 5 October 2011 grounding of the <i>Rena</i> on Astrolabe Reef is an example of how accidents can lead to wider environmental and social costs such as a reduction in the amenity value of an area, damage to populations of marine species, and commercial damage to businesses. This matter is currently under investigation by Maritime New Zealand and the Ministry of Transport.]</p>
Congestion	<p>Applies mainly to road transport (but can occur at sea, on the rail network and at airports). Both freight and passenger vehicles contribute to congestion. Some of these costs are internalised through time costs and operating costs. However, the costs to other road users are not internalised and can be considered an externality. Due to their large size, transport vehicles have a higher unit congestion effect than, say, passenger cars. This effect is highly dependent on location and time.</p>
Air pollution	<p>Arises from road, rail, sea and air transportation. Consumption of fossil fuels (mainly diesel) leads to the emission of a number of air pollutants including volatile organic compounds, carbon monoxide and nitrogen oxide. Emissions can have harmful impacts on human health. Externalities associated with air quality also increase with congestion and can be highly dependent on the prevailing weather conditions.</p>
Pollution of marine environment	<p>Arises from sea transportation. Ballast water, for example, can result in the spread of exotic marine pest species which can impact amenity values, recreational fishing, commercial fishing and coastal installations. Accidents can result in the spill of toxic cargo or oil.</p>
Water runoff from roads and rail	<p>Arises from road and rail transportation. Heavy metals, released by wear of tyres and brake pads, are washed off roads and rail and can contaminate rivers, streams and harbours. The construction of roads can also result in increased surface runoff carrying sediment and pollutants.</p>

Implications of the New Zealand ETS for international freight

In 2002 the Government enacted the Climate Change Response Act. The central feature of this Act is an ETS covering greenhouse gases.

In theory, an ETS is an efficient mechanism for reducing emissions because it allows market forces to seek out the combination of abatement options that achieves a given reduction target at least cost. An ETS internalises the external cost, and in so doing, provides an incentive for reducing emissions, including through innovation and technological change.

In considering the New Zealand ETS, the Commission has examined those parts of the scheme that directly impact international freight. The Commission has not attempted to review the overall impact of the ETS on New Zealand's export sectors, as this is outside the inquiry's terms of reference. In this context, the Commission notes the following:

- Fuel used by international sea freight and air freight carriers is exempt from the New Zealand ETS under the Climate Change Response Act 2002. Therefore there is no price impact on the international leg of the freight logistics chain. However, notwithstanding the ETS exemption, international carriers are still imposing external costs through their emissions.
- Coastal shipping is covered by the New Zealand ETS through the inclusion of bunker fuels in the Climate Change (Liquid Fossil Fuels) Regulations 2008. Research conducted by the Ministry of Transport suggests that the ETS adds an average of \$0.86 per 1000 tonne kilometres (Ministry of Transport, 2011g). The Ministry of Transport estimates that this adds around \$3.4 million per annum to the cost of

¹⁸⁵ Moral hazard problems arise when, due to the presence of insurance, a person takes more risk than they otherwise would (because they do not face the full cost or consequences of their behaviour).

coastal shipping. At least part of this cost is passed through to shippers – for example, Pacifica currently charges a \$6 per TEU ETS levy.¹⁸⁶

- Under existing cabotage laws, international carriers can carry domestic cargo on any leg of an international service. However, these ships are exempt from ETS costs.
- Cost increases per litre of diesel from the ETS are expected to be in the vicinity of 3–5 cents. Assuming an increase of 3 cents, the Ministry of Transport estimates that the New Zealand ETS adds around \$1.32 per 1000 tonne kilometres to road vehicle operating costs (Ministry of Transport, 2011g).¹⁸⁷ Given the highly competitive nature of road freight it is likely that these costs will be passed through to shippers.
- The Ministry of Transport has estimated that the New Zealand ETS will add \$0.45 per 1000 tonne kilometres to the cost of rail freight.

F13.5

A well designed domestic emissions trading scheme is likely to be an efficient mechanism to internalise the costs of greenhouse gases emitted by freight transport operators within New Zealand. International legs continue to be exempt pending the development of effective international arrangements.

European Emissions Trading System

From the start of 2012, emissions from all domestic and international flights that arrive at or depart from an airport in the European Union will be covered by the EU Emissions Trading System and therefore subject to an ETS cost.

The Commission estimates that this will impact around 10–15% of New Zealand air freight exports (by value). Given New Zealand's distance from the EU markets, New Zealand exporters and importers are likely to face relatively higher cost increases than their international competitors (who are in general located closer to European markets).

The extent to which these costs will be passed through to New Zealand shippers is unclear; however, an impact assessment undertaken by the EU Commission concludes that airlines are expected to pass on, to a large extent or even in full, the cost of participating in the scheme to their customers (European Commission, 2006a).

The Commission notes that the underlying assumptions used to reach this conclusion have been disputed by the aviation industry. In 2007 a group of aircraft operators commissioned Ernst & Young and York Aviation to review the EU's impact assessment (Ernst & Young and York Aviation, 2007). This study concluded:

1. It is unlikely that aircraft operators will be able to pass through the full cost of allowances to consumers. On the contrary, they will have to absorb a large proportion of costs, with the exact proportion being determined by the individual business model of the operator.
2. Demand for airline services is highly price sensitive.

While acknowledging that the price sensitivity of demand for air freight is uncertain, the Commission expects that at least some of the ETS costs will be passed through to freight customers. This is likely to be in proportion to the additional fuel consumed by airlines as a result of carrying air cargo on passenger services (see Box 13.7 for a discussion on attributing externalities to international freight).

¹⁸⁶ Based on the indicative cost and time to ship a 20-foot container from Auckland port to a Christchurch depot (as given in the example in Table 4.7), this \$6 makes up 0.4% of the freight charge.

¹⁸⁷ The Ministry of Transport notes that these figures are based on 2006 figures and therefore the cost of the ETS could be lower if the heavy vehicle fleet has been gradually replaced by more efficient vehicles.

Information gathered during the inquiry indicated the EU ETS will increase air freight rates from New Zealand to the EU (and in reverse) by around \$60–70/tonne. This constitutes an increase of approximately 1.3% on the price of air freight to Germany and around 1.6% on the price to the UK. New Zealand exporters will have a limited ability to pass these costs on.

F13.6

At least some of the EU emissions trading system charges will be passed through to freight customers. Air freight prices to Germany are likely to increase by around 1.6%, and prices to the UK by approximately 1.3%.

Box 13.7 **Attributing externalities to international freight**

A relevant question is: What are the external costs that can be directly attributed *to international* freight – as opposed to passenger travel or domestic freight? This is particularly important for international air freight which, as noted in Chapter 3, is largely a by-product of passenger services. In this situation the key question is: Would the external cost be generated if the passenger plane were not carrying freight?

For some external costs the answer is yes – the external costs are independent of the presence of freight. For example, on take-off and landing a plane makes the roughly same amount of noise whether it is carrying freight or not. Similarly, a plane is just as likely to be involved in an accident whether or not it is carrying freight (assuming the freight is not dangerous).

In general, most of the external costs associated with air freight on passenger craft can be attributed to the *additional fuel consumed* due to the added weight of the freight. Of course, the same is not true for dedicated cargo flights. For these flights all external costs can be attributable to international air freight.

14 Key insights and action points

This concluding chapter summarises the key insights and action points from this inquiry into the New Zealand's international freight transport services. Looking over all the ground covered in the inquiry, it picks out where the Commission believes the greatest opportunities lie for improving the international freight system, and making a difference to New Zealand's future economic performance and prosperity.

14.1 International freight transport provides a vital economic link

International trade is a critical part of achieving productivity growth in New Zealand. Exporters and importers rely on the international freight transport system to get their goods to and from markets in other countries. International freight is a sophisticated service industry. Competing private-sector firms such as trucking companies, freight forwarders, shipping lines and airlines are at the customer interface, but these firms in turn rely on an infrastructure backbone of roads, railways and ports that is largely controlled by central and local government.

International trade is particularly relevant for a small and distant island nation. New Zealand's distance from key markets – leading to high transport costs and lengthy times to get products to market – is a risk to its ability to participate effectively in the global economy. Therefore the freight system needs to be as efficient and effective as possible. This will help raise the prosperity of New Zealand's businesses and workers, and enhance consumers' purchasing power.

14.2 Current performance is good but there is room for improvement

The Commission found that average international freight costs for imports as a proportion of product value declined by around 40% over the last 20 years. The trend for exports is likely to have been similar. This fall is impressive considering price rises in inputs such as fuel and labour over this period. In addition, the current system has taken the steadily rising freight volumes in its stride. It has shown considerable resilience in the face of a number of recent unexpected shocks to its capability – the series of major earthquakes in Christchurch, the grounding of the container vessel *Rena* off the coast of Tauranga, and an extended industrial dispute in Auckland.

Nevertheless, productivity growth in 'transport and storage' slowed markedly from the late 1990s; indicators of container productivity at New Zealand's ports suggest they fall short of world best practice; and sea freight costs for New Zealand exporters and importers are significantly higher for New Zealand shippers than their Australian counterparts. There are major challenges to be met from continuing globalisation and rising freight volumes, new technologies, and the need to mitigate environmental harm. New Zealand also needs to improve productivity in the workplace and more generally.

The Commission has found opportunities for improvement. The rest of this chapter lists the five most important of these opportunities and explains their significance in the broad scheme of New Zealand's international freight transport system. It also picks out the recommendations in this report that are relevant to these opportunities.

14.3 The five top opportunities for improvement

1) Lift the quality of infrastructure planning and coordination

The international freight system relies on a complex chain of large, interconnecting pieces of infrastructure. As a result the many players involved face significant challenges to coordinate their investments over time and achieve efficient outcomes.

After considering a range of approaches, from directive central planning to laissez-faire reliance on markets, the Commission recommends an intermediate approach with two key features:

- **Facilitated discussion** – central government brings together relevant stakeholders and leads them through discussion to the development of a common view of the future and voluntarily agreed plans for coordinated actions. An example of this approach is the Upper North Island Freight Plan led by the New Zealand Transport Agency.
- **Central government takes a lead and coordinates itself** – in its own investment decisions, most notably on road and rail infrastructure, the government consults, plans and decides in a timely fashion so that other players have the confidence to make complementary investments. In addition, it subjects its own major road and rail investments to cost-benefit appraisals that recognise interdependencies between the two modes.

The Commission believes this approach is most likely to result in efficient investment that provides timely and appropriate capacity for future demand, while minimising the risks of ‘white elephants’ and the incentives for costly behaviours that can undermine centrally directed planning (such as lobbying or providing tactical misinformation in order to influence the central planner’s decisions).

R9.1

More use should be made of ‘facilitated discussion’ models of cooperation in coordinating investment planning. These models are based on information sharing, robust discussion and relationship-building, but do not bind the participants to particular outcomes. They do not create the strong incentives for the costly behaviours that undermine directive planning models (such as tactical misinformation, rent-seeking and strategic hold-up).

R9.2

The government should:

- coordinate its assessments of road and rail projects in order to allocate capital where it can add most value; and
- seek ways to improve the transparency of decision making around road and rail infrastructure projects, including the publication of cost-benefit analyses.

The Commission also recommends changes to the Resource Management Act 1991 (RMA) to make it take greater account of the benefits of nationally significant freight infrastructure investments and provide better signals to local government about central government’s priorities.

The recommended approach to planning and coordination and the RMA changes would serve New Zealand well in facing challenging questions about the future shape of New Zealand’s international freight system. These include the number, type and location of ports; how to get the best out of large container ships; how best to coordinate road and rail; and central and local government interactions in freight transport.

R8.1

Section 5 of the Resource Management Act 1991 should be reviewed to clarify the consideration of net social benefits and costs including those accruing at a national level.

Should the Government decide not to review s.5, s.6 of the Resource Management Act should be amended to include specific reference to the development and operation of regionally and nationally significant infrastructure.

R8.2

The Minister for the Environment should commence development of a National Policy Statement for transport infrastructure. This would provide guidance for local authorities when considering competing national and local priorities.

R8.3

The Government should review ways to reduce the time it takes to produce fully operational local government plans.

2) Better governance of ports and airports

All commercial ports are majority owned by a council, within whose territory the port is located. Four ports are listed on the New Zealand Stock Exchange. All other minority ownership stakes are in ports held by other council or other port companies. Christchurch Airport is the only council-controlled airport with an involvement in international freight.

The governance arrangements for publicly owned enterprises need to be of high quality because publicly owned enterprises face less discipline from other sources than comparable privately owned enterprises. There are three areas where the governance framework applying to ports is not currently optimal: lack of clarity of purpose of the companies; failure to properly manage conflicts of interest; and insufficient monitoring and transparency of performance information. These observations for ports are also generally applicable to council-controlled airports.

Clarity of purpose

While local authorities may desire to control ports for a number of reasons, difficulties in resolving multiple objectives in publicly owned firms can contribute to problems in areas such as operational efficiency, labour relations and investment planning. To avoid such problems, port and airport companies need a clearly defined purpose and ownership, and governance models that best suit that purpose. Effective governance of organisations is central to their ability to make value-maximising decisions.

The State-Owned Enterprises Act 1986 provides a clearer purpose statement for ports than does the Port Companies Act 1988. In particular, the requirement to be a “successful business ... as profitable and efficient as comparable businesses that are not owned by the Crown” is a clearer statement of purpose than the requirement to be a “successful business” specified in the Port Companies Act.

R10.1

The legislated principal objective of council-controlled port and airport companies should be changed to: “to be a successful business, as profitable and efficient as comparable businesses that are privately owned”.

Managing conflicts of interest

Elected representatives have unavoidable conflicts of interest when acting as directors for a council-controlled company – particularly between their responsibilities to the community they represent under the Local Government Act 2002 and their responsibilities to the company under the Companies Act 1993. Similar considerations apply to council staff, since the council is likely to have regulatory functions (eg, under the Resource Management Act) that affect the company.

To manage conflicts of interest, elected representatives and council staff should be precluded from being a director of port and airport companies. This increases the separation between commercial and wider council objectives.

R10.2

Elected representatives and council staff should be precluded from being a director of council-controlled port and airport companies. This increases the separation between commercial and wider council objectives.

Monitoring

Transparency and reporting are key parts of any governance regime. When other competitive forces are muted, ‘benchmark competition’ can play an important role. The Commission’s economic value added (EVA) analysis of selected ports found that negative EVAs were common. This suggests that the ports are making poor use of a scarce resource – capital – and that port owners should address this through some

combination of better cost control, shifting resources to better uses within the port, or retiring capital for redeployment elsewhere.

EVA figures provide an overall picture of the economic efficiency with which capital is being invested and used in the freight transport system. In the interests of improved reporting, transparency, and ultimately efficiency, port companies should regularly publish EVA figures, which should be given greater attention by owners and policy makers. To support benchmark competition between port companies, the Ministry of Transport should publish regularly an independent assessment of their comparative financial performance.

R10.3

Port companies should regularly publish economic value added analyses for their operations, including disaggregated data for significant business segments. This would improve reporting and transparency, and help to ensure the efficient use of capital in the freight transport system.

R10.4

To support benchmark competition between port companies, the Ministry of Transport should regularly publish an independent assessment of comparative financial performance for port owners and policy makers to consider.

Ownership

There are convincing empirical and theoretical grounds to suggest that increased private ownership of ports would improve their performance. But port owners should choose this method to improve governance, or simply to raise capital, only after thoroughly considering the issues.

The optimum level of council ownership will depend on the priorities assigned to particular aims by local communities. Full ownership comes with risks of non-transparent actions by councils, with consequent risks for ratepayers. On the other hand, 100% private ownership may expose local community to risks they would prefer not to take. Councils that view ownership as a means to achieve important community aims should choose the minimum level of council ownership that supports those aims.

Landlord port models in which land ownership is separated from terminal operations are common overseas. This may be an efficient mechanism for maintaining control over port land use while benefiting from the efficiency improvements resulting from increased private involvement in port operations. Competition between multiple terminal operators could further incentivise efficiency at larger ports.

One option for public owners seeking to improve governance is to opt out of the relevant public sector governance regime and into the stock exchange regime. A stock market listing offers significant potential governance improvements for larger companies with partial council ownership. These benefits arise from an observable share price, reporting and continuous disclosure rules, and external analysis of management decisions. Council owners of larger port and airport companies should consider listing them on the stock exchange in order to obtain the governance benefits from listing.

R10.6

Councils should be clear about the objectives they wish to pursue through port ownership. Having decided those objectives, they should choose the minimum level of council ownership that offers the required control rights. Increased private capital participation offers improved incentives for port efficiency, and the dynamic efficiency of the freight system in general.

R10.7

Councils should consider landlord port models in which land ownership is separated from terminal operations. This may be an efficient mechanism for maintaining control over port land use while benefiting from the efficiency improvements resulting from increased private involvement in port operations.

3) Make competition regimes more pro-competition

International sea freight

The Commission recommends a change to bring international shipping industry that serves New Zealand more into line with the competition requirements under the Commerce Act 1986 that are faced by other industries. This change would outlaw any agreements between shipping lines that fix prices and/or limit capacity unless the Commerce Commission judges that their public benefits outweigh any anti-competitive detriments.

Currently New Zealand automatically exempts from its competition law all agreements between international shipping carriers, including price-fixing agreements. The proposed change would not affect non-ratemaking agreements, under which carriers cooperate at an operational level to run joint services but still compete to sell container spaces on board. These agreements would continue to be automatically exempt.

The change would bring New Zealand's treatment of international shipping services in line with pro-competitive changes in other important jurisdictions such as the EU, which removed its automatic exemptions for ratemaking agreements in 2008.

While there is evidence to suggest considerable competition among international shipping services to and from New Zealand, the Commission also found evidence of higher sea-freight rates on New Zealand services compared with Australian services, and these were not fully explained by cost differences.

There are likely to be net gains from taking a more pro-competition stance for international shipping, with only a small risk of any deterioration in services. The gains would be in the form of keener pricing and more choice of international sea freight services for New Zealand exporters and importers.

R11.1

Ratemaking agreements – ones involving price-fixing or limiting capacity with the intent of raising prices – have a high risk of anti-competitive detriment. Exemptions for such agreements should be removed and authorisation mechanisms should be relied upon for assessing whether these agreements are in the public interest.

There should be a transitional period to allow the agreements in place at the time the exemption is repealed to continue until their compliance with the Commerce Act 1986 has been tested.

R11.2

The exemption for non-ratemaking agreements should be retained in the Shipping Act 1987 and be conditional on filing agreements with the Ministry of Transport for placing on a public register.

The exemption and remedial regime should apply equally to outwards and inwards shipping.

To be eligible for exemption, agreements must allow and protect confidential individual service contracts

The exemptions for international shipping in the Commerce Act should be repealed.

International air freight

International air freight services in and out of New Zealand are largely a by-product of passenger services, and the competitive environment for passenger services is therefore a major influence on the freight market. From a freight perspective, the Commission believes the current competition regime for international air services should be improved. The key change is to ensure that the process for authorising trade practices is based on a robust analysis of their costs and benefits. This will maximise the likelihood that efficiency-enhancing practices are authorised, and minimise the chance that harmful forms of coordination are authorised.

R12.1

The Government should account for freight-specific costs and benefits whenever it considers changes to air services agreements or new air services agreements.

R12.2

Subject to a review of the passenger-specific impacts, the Government should consider adopting a Commerce Act-only regime for regulating international air services.

R12.3

If the Government decides to retain Part 9 of the Civil Aviation Act, it should amend Part 9 to:

- require the Minister of Transport to have regard to an assessment of the benefits and costs of trade practices that are proposed for authorisation under s.88 or s.90 of the Act, and commission regimes that are proposed under s.89;
- require an assessment of the costs arising from any potential reduction in competition as part of each assessment of benefits and costs;
- require public consultation on the assessment of benefits and costs where the trade practice or commission regime is likely to reduce competition; and
- require the publication of s.88 and s.90 authorisations that are granted.

4) Build more productive workplaces at ports

There is scope for a significant lift in workplace productivity at a number of ports. The benefits of high-productivity workplaces include higher real wages, better working conditions, higher levels of job satisfaction, and more competitive and profitable businesses.

Good workplace relationships between employers and employees are an essential catalyst for developing high-productivity workplaces. These relationships are typically built on mutual trust and a shared understanding and vision for the organisation. Most New Zealand port companies, their employees and unions have some work to do to achieve this desirable state.

The Commission does not believe that government policies aimed specifically at sorting out problems in workplace relationships at ports are warranted. Generally the current regime provides an adequate framework for reaching agreements conducive to higher productivity. While the Employment Relations Act 2000 appears to enable generally good labour market outcomes across the economy, there is scope to review the regime periodically to ensure it continues to achieve its objectives as social and economic conditions change.

The Commission believes that improving the governance of both ports and unions would contribute to building more productive workplace relationships at ports.

It is also important that the parties have a common and correct understanding of employment law concepts and processes. The Commission has found there are a number of misconceptions, and removing these could play a part in developing better workplace relationships.

5) Develop a richer information infrastructure

The Commission believes that the government has an important role in developing a more comprehensive system of gathering and disseminating freight data. More information on freight in New Zealand – collected and made available on a regular basis – would have considerable value. Information (such as freight movements, infrastructure investment plans, the performance of key infrastructure providers, and future demand) can help freight participants make better individual and joint decisions. It can also help stakeholders to monitor performance, and policy-makers to design and evaluate policies and regulations.

The Ministry of Transport's Freight Information Gathering System initiative is producing valuable information and, and there are opportunities to expand it.

It is important that there is a robust process to decide what information to gather and disseminate. This will require subjecting any proposal to a regulatory impact analysis 'efficiency test' to weigh up the balance of its benefits and costs.

R3.1

Alongside container productivity measures, the Ministry of Transport should measure and publish the productivity of New Zealand ports in handling logs and other significant non-containerised exports and imports.

R13.3

The Ministry of Transport should develop a proposal to extend the Freight Information Gathering System and subject the proposal to a regulatory impact analysis 'efficiency test', to determine whether it would deliver net benefits beyond existing information collection and dissemination.

14.4 Conclusion

The recommendations in the five areas outlined in this chapter would, if implemented together, provide a powerful boost to the environment within which the international freight sector operates. They would help the sector to position itself to meet the challenges it will inevitably face, and maximise its contribution to New Zealand's economy.

Findings and recommendations

The full set of findings and recommendations from the report are below.

Chapter 1 – The inquiry and why it is important

Findings

F1.1

What matters for many New Zealand businesses is access to a menu of logistics services, from which they can choose the combination of price, quality, frequency and timeliness that best meets their requirements.

F1.2

Despite the global economy becoming more trade-oriented over the last 20 years, the growth in New Zealand's export intensity has lagged well behind that of most of its OECD peers.

F1.3

New Zealand's small home market and distant location pose difficult challenges. The costs of being economically distant from key markets – both in terms of direct transport costs and the opportunity costs of time – are substantial impediments to New Zealand's ability to participate effectively in the global economy.

F1.4

Improving New Zealand's international freight system will help mitigate its geographical distance from markets and raise its ability to participate effectively in the global economy. A more efficient and effective freight system can raise the prosperity of New Zealand's businesses and workers and enhance consumers' purchasing power.

Chapter 2 – The Commission's framework

Findings

F2.1

Economic efficiency (broadly defined) is the key yardstick of performance for the international freight transport system. An efficiency approach will take account of harmful effects of freight transport on the environment and of other market failures. Other important influences on wellbeing are best dealt with through other policy levers than the ones directly connected to international freight transport.

F2.2

International freight transport can be viewed as a system with a number of distinctive characteristics such as diverse needs, large, lumpy infrastructure investments, tensions between funding to cover costs and pricing to encourage efficient use, and the importance of coordination and transit time along supply chains. These characteristics require both central and local governments as well as the private sector to play their parts to make the system work efficiently.

F2.3

Government has a number of roles in international freight transport. But intervention is only justified where benefits outweigh the costs. In particular, principles of good regulation should be used to design and monitor regulatory interventions, including the decision that regulation is the best option.

F2.4

Access to international freight transport does not mean services being provided to everyone regardless of cost, but their being provided where there is willingness to pay to cover the cost. Some cases, where relatively isolated producers cite a lack of access, are unlikely to fulfil this condition.

Chapter 3 – International freight transport – how it operates and performs

Findings

F3.1

Productivity growth in New Zealand's transport and storage industry increased dramatically in the 1990s, but has since slowed considerably. Since 2000 it has been substantially slower than in Australia, the US and Germany.

F3.2

Available indicators suggest that New Zealand's container port performance is no less and possibly better than in Australia. However, there is notable variation between New Zealand ports, with Tauranga being the strongest performer.

F3.3

There is little information about the productivity of freight handling at airports. Auckland Airport's overall productivity (passenger and freight) compares favourably with other Asian and Pacific airports, while Christchurch is about average.

F3.4

New Zealand has low average loads for road freight compared to other countries.

F3.5

Compared internationally, New Zealand has low volumes of freight per kilometre of rail and low maximum axle loads for its trains.

F3.6

The six port companies analysed by in the inquiry recorded mostly negative Economic Value Added (EVA) from 2008 to 2011, although there was a trend to less negative figures. This suggests that the port companies have not recovered their cost of capital based on their 2007 asset values.

Recommendations

R3.1

Alongside container productivity measures, the Ministry of Transport should measure and publish the productivity of New Zealand ports in handling logs and other significant non-containerised exports and imports.

Chapter 4 – Freight transport costs

Findings

F4.1

Ad valorem sea freight costs – the freight costs faced by New Zealand importers and exporters as a percentage of shipment value – have decreased over the last two decades.

F4.2

Ad valorem air freight costs decreased in the 1990s, but flattened in the 2000s.

F4.3

Ad valorem sea import freight costs are higher in New Zealand than in Australia, after accounting for compositional factors. Sea freight costs for both countries exhibit a similar decreasing trend over the past two decades.

- F4.4** Reductions in ad valorem air freight costs in Australia flattened off in the 2000s, but not to the same extent as in New Zealand. Ad valorem air freight costs are currently higher in New Zealand than in Australia.
- F4.5** Container shipping freight costs per kilogram have dropped over time. This suggests that cost-reducing efficiency and technology improvements appear to be important drivers for the decrease in container shipping costs.
- F4.6** Onshore costs of New Zealand's sea freight compare favourably with Australia and other OECD countries, but are higher than for Singapore, the country with the lowest costs.
- F4.7** Case studies suggest that the sea transport component of total sea freight costs are considerably higher for routes in and out of Auckland compared with routes in and out of Sydney. The onshore components of Auckland's sea freight costs, particularly its port handling costs, compare favourably with Sydney's.
- F4.8** Case studies suggest that total air freight costs for selected international routes into and out of Auckland are less than those for the analogous routes into and out of Sydney. The air transport component of total costs is fairly similar for Auckland and Sydney, and most of the differences in total costs are due to lower ground handling costs in Auckland.
- F4.9** Lower trade volumes create higher costs for New Zealand container shipping relative to Australia. These costs provide a plausible explanation for at least part of the significant differences in sea freight prices observed in case studies.
- F4.10** There are fewer services and fewer competitors for the New Zealand container shipping market relative to Australia.
- F4.11** The number of days taken to complete New Zealand's export and import requirements compares well with other countries, but is behind international best practice.
- F4.12** There is scope for improving customs procedures and documentation requirements, even though New Zealand is performing reasonably well in these areas. Continuing to work with trading partners to improve trade facilitation could reduce transit times.

Chapter 5 – Impediments to competition in international freight

Findings

- F5.1** Episodes of significant truck queuing at Auckland Airport suggest poor coordination, leading to low operational efficiency. There is scope for market participants to address this issue, through coordination mechanisms such as a slot booking system with variable charges.
- F5.2** There are no barriers to entry for dedicated air freighters to increase freight capacity in and out of Christchurch. If shippers are willing to pay for a dedicated freighter service, they should be able to signal this to airlines directly or through a 'consolidation agent'.

Chapter 6 –Improving workplace productivity

Findings

- F6.1** Workplace productivity is driven by a number of factors including innovation, the adoption of new technologies, investment in plant and equipment, and investment in worker skills. Healthy relationships between employer and employees, including a shared view of the future, are important facilitators of these drivers in all workplaces, including those within the international freight logistics chain.
- F6.2** The persistence of some work practices represents a forgone opportunity to capture lost value and distribute it in a manner that can potentially benefit all parties.
- F6.3** A specific policy regime aimed at promoting better workplace relations at ports alone is not required.
- F6.4** Improving the governance of both ports and unions, and promoting skilful, persistent, honest and resolute leadership, are important elements in developing relationships conducive to high-productivity workplaces. Such relationships will inevitably take time to build and to filter through to port performance.
- F6.5** A well established ‘custom and practice’ can give rise to a contractual term, or be used by courts to interpret the meaning of an ambiguous term in an employment contract. However, the express terms of an employment contract will always prevail. Both employer and employee can seek to specify or override a custom and practice during the negotiation of an employment contract. The ability to change existing practices will therefore be influenced by the workplace relationships that exist between the parties and the value each party assigns to the custom and practice.
- F6.6** While communications that relate to collective bargaining must go through an employees’ union, an employer can communicate with employees during the collective bargaining process as long as the communication is consistent with good faith.
- F6.7** The concepts of ‘contracting out’ and ‘casualisation’ are often confused. While an external services provider (contract company) may indeed employ casual workers, it should not be automatically assumed that the proportion of casual or part-time workers will be higher than if the same services were provided ‘in-house’.

Chapter 7 – Customs, security and biosecurity

Findings

- F7.1** The complete elimination of border risk is neither feasible nor efficient. Rather, a balance between costs and benefits needs to be struck.
- F7.2** On the basis of submissions to the inquiry, it appears the general level of risk tolerance reflected in the activities of New Zealand’s border agencies is in line with the expectations of stakeholders. The level of border risk management is not acting as a barrier to the efficiency of the international freight logistics chain.
- F7.3** A risk-based approach is a sound framework for allocating the resources of New Zealand’s border agencies.

- F7.4** The Trade Single Window will provide exporters and importers with a more streamlined, less fragmented interface with border agencies.
- F7.5** While the second stage of the Joint Border Management System project will largely address coordination issues between the Ministry of Agriculture and Forestry and the New Zealand Customs Service, the introduction of this system is several years away.
- F7.6** Qualitative evidence suggests that Mutual Recognition Agreements improve the efficiency of the international freight logistics chain.
- F7.7** Registration, certification, and inspection fees and charges paid by New Zealand exporters are, in general, lower than those imposed on Australian companies exporting similar products.
- F7.8** Fees and charges imposed on New Zealand importers generally compare favourably with those imposed by Australian border agencies.

Recommendations

- R7.1** The use of a risk-based approach increases the need for regular monitoring of outcome-based performance measures. Border agencies should continue to enhance their performance measures and review procedures in order to improve the transparency of agency performance.
- R7.2** The recently announced Future Directions for the Border Sector initiative should develop transparent and quantifiable performance measures for border cooperation. These measures should form the basis of the planned six-monthly reports to Cabinet. Active oversight of the Border Sector Governance Group by border sector Ministers should continue beyond the completion of the Future Directions programme of work.
- R7.3** The Customs and Excise Act 1996 should be added to the Government's Regulatory Review Work Programme with a view to assessing whether it is fit for purpose in light of changes to border management practices and developments in technology since 1996.
- R7.4** The Government should place emphasis on developing mutual-recognition schemes for New Zealand air cargo exports with a view to reducing delays for time-sensitive exports caused by increased security requirements.

Chapter 8 – Encouraging efficient investment and innovation

Findings

- F8.1** There appears to be ambiguity around the interpretation of the purpose of the Resource Management Act 1991 (RMA) and the extent to which the Act allows the balancing of socio-economic aspirations with environmental outcomes.

F8.2

Central government plays an important role in providing direction on issues that involve balancing local values with regional or national benefits. Without clear signals from central government, national benefits and costs may be assigned a lower priority during the planning and consent process – resulting in a potential reduction in the overall wellbeing of society.

F8.3

Recent reforms to the RMA are likely to lead to improvements in the timeliness and cost of the consent process. The full benefits of these reforms are likely to take time to filter through into council plans, and into the perceptions of those whose opinions may have been shaped by previous experiences.

Recommendations

R8.1

Section 5 of the Resource Management Act 1991 should be reviewed to clarify the consideration of net social benefits and costs including those accruing at a national level.

Should the Government decide not to review s.5, s.6 of the Resource Management Act should be amended to include specific reference to the development and operation of regionally and nationally significant infrastructure.

R8.2

The Minister for the Environment should commence development of a National Policy Statement for transport infrastructure. This would provide guidance for local authorities when considering competing national and local priorities.

R8.3

The Government should review ways to reduce the time it takes to produce fully operational local government plans.

R8.4

The Government should conduct a review of whether to include port companies as network utility operators in s.166 of the RMA.

Chapter 9 – Investment coordination and planning

Findings

F9.1

‘Facilitated discussions’ can improve decentralised decision making through promoting relationship building and information sharing, leading to improved coordination.

F9.2

While there are pressures on the government to provide stronger leadership in the transport sector, this approach involves significant risks. Governments can take a lead where:

- action relies on powers only available to government (eg, transport corridors, regulatory policy); or
- it can do so at low cost to itself, while creating benefits for others (eg, facilitated discussions, transparent decision-making).

F9.3

Governments need to perform a leadership role in designating transport corridors, and coordinate these decisions with their own infrastructure investment planning. Governments should be mindful of the risks of these decisions, and that poor decisions may have unintended consequences.

- F9.4** Directive planning, in the sense of a centralised plan imposed on independent parties, has significant disadvantages compared with decentralised, facilitative approaches to planning.
- F9.5** String services – with container ships calling at multiple ports – are normal practice in New Zealand, reflecting the geographic distribution of freight demand, costs of inland transport and shipping technology.
- F9.6** Decisions about the viability of smaller ports are best left to their owners. An important consideration is whether shippers are willing to pay the full costs of port services, including an adequate return on capital.
- F9.7** The Commerce Commission is best placed to evaluate the public benefits relative to the detriments of proposed mergers that might result in a lessening of competition. Such mergers warrant independent evaluation as their benefits and costs are potentially very large.
- F9.8** Prescribing a single approach to investing to support bigger container ships is unlikely to be an efficient way to deal with the significant investment risks.
- F9.9** While larger container ships servicing one or more New Zealand hub ports would lower voyage operating costs, it is unclear whether these cost savings will be transferred to shippers, or whether the reduced competition between ports (and shipping lines) would result in higher port charges and freight prices.
- F9.10** Unevenly distributed impacts make it difficult to determine whether shippers, as a whole, will be better or worse off in a bigger ship scenario. A domestic hub-and-spoke model will likely reduce the transport costs faced by some shippers, and increase the cost to others – creating both winners and losers.
- F9.11** The scenario in which a lack of container ports in New Zealand capable of handling bigger ships forces hubbing through Australia, with both higher costs and transit times, appears unlikely. The commercial viability of this scenario would be undermined by direct services with smaller, albeit less fuel-efficient, container ships.

Recommendations

- R9.1** More use should be made of ‘facilitated discussion’ models of cooperation in coordinating investment planning. These models are based on information sharing, robust discussion and relationship-building, but do not bind the participants to particular outcomes. They do not create the strong incentives for the costly behaviours that undermine directive planning models (such as tactical misinformation, rent-seeking and strategic hold-up).
- R9.2** The government should:
- coordinate its assessments of road and rail projects in order to allocate capital where it can add most value; and
 - seek ways to improve the transparency of decision making around road and rail infrastructure projects, including the publication of cost-benefit analyses.

Chapter 10 – Governance and ownership

Findings

F10.1

Effective governance ensures that the organisation makes value-maximising decisions across all of its functions and activities. Publicly owned enterprises need high-quality governance arrangements because they face less discipline from other sources than comparable privately owned enterprises.

F10.2

The Port Companies Act sets the principal objective of every port company as being to operate as a ‘successful business’. That objective could be clearer for council-controlled port companies. Their potential efficiency may be limited should they pursue the multiple objectives of their shareholders.

F10.3

The Airport Authorities Act requires airport companies to be managed as a ‘commercial undertaking’. In the case of majority council ownership, that requirement may be supplemented with the commercial and non-commercial objectives of the airport company’s owners.

F10.4

It is more efficient for councils to optimise their multiple objectives across all the entities they control, rather than pursuing all objectives within each entity. Commercial entities should be separated from the non-commercial, and the commercial entities structured to maximise long-term value. The enhanced financial returns from commercial entities can then be used to fund the achievement of the council’s wider objectives.

F10.5

A holding company can provide partial, but incomplete, insulation between the wider objectives of a council and the commercial objectives of a port or airport company.

F10.6

Public owners seeking to improve governance can opt out of the relevant public-sector governance regime and into the stock exchange regime. A stock market listing offers potential governance improvements for larger companies with partial council ownership. These benefits arise from an observable share price, reporting and continuous disclosure rules, and external analysis of management decisions.

Recommendations

R10.1

The legislated principal objective of council-controlled port and airport companies should be changed to: “to be a successful business, as profitable and efficient as comparable businesses that are privately owned”.

R10.2

Elected representatives and council staff should be precluded from being a director of council-controlled port and airport companies. This increases the separation between commercial and wider council objectives.

R10.3

Port companies should regularly publish economic value added analyses for their operations, including disaggregated data for significant business segments. This would improve reporting and transparency, and help to ensure the efficient use of capital in the freight transport system.

R10.4

To support benchmark competition between port companies, the Ministry of Transport should regularly publish an independent assessment of comparative financial performance for port owners and policy makers to consider.

R10.5

Government should use the s.7 provisions in the State-Owned Enterprises Act (providing for SOEs to receive direct payments for non-commercial activities) with KiwiRail to transparently identify expectations around public goods and the costs incurred in their delivery.

R10.6

Councils should be clear about the objectives they wish to pursue through port ownership. Having decided those objectives, they should choose the minimum level of council ownership that offers the required control rights. Increased private capital participation offers improved incentives for port efficiency, and the dynamic efficiency of the freight system in general.

R10.7

Councils should consider landlord port models in which land ownership is separated from terminal operations. This may be an efficient mechanism for maintaining control over port land use while benefiting from the efficiency improvements resulting from increased private involvement in port operations.

Chapter 11 – Regulation of international sea freight competition

Findings

F11.1

Cooperation agreements between international liner shipping carriers have historically been exempt from the full application of domestic competition laws. The policy rationale for these exemptions was that price/capacity fixing and revenue pooling were needed to ensure reliable liner shipping operations. The benefits of the agreements were taken to be so likely to outweigh any anti-competitive detriments that there should be no onus on carriers to prove that this was the case.

F11.2

Compared with other approaches, New Zealand's regulatory regime for international shipping is something of an outlier in that the exemptions apply widely and largely without the limiting conditions that are found elsewhere. Moreover, there seems little logic for having two somewhat different exemptions, which give rise to complexity and uncertainty and to inconsistent treatment of importing versus exporting.

F11.3

The power under s.12 of the Shipping Act – to regulate shipping in response to foreign government restrictions – may no longer be necessary. Repealing s.12 would enable the government to remove the exemption from Part 4 of the Commerce Act for outwards shipping. The threat of regulation under Part 4 provides an incentive for shipping lines to act competitively.

F11.4

The balance of the limited evidence that exists following the changes in shipping regulation in the US in 1998 and the EU in 2008 appears to favour the view that these changes have not led to material degradation in the quality of shipping services.

F11.5

A number of indicators suggest that the international shipping industry serving New Zealand is competitive. On the other hand, case studies show evidence of higher sea-freight rates on New Zealand services compared with Australian services that do not seem to be fully explained by cost differences.

Ratemaking agreements are not currently in widespread use; however, there are likely to be net gains from taking a more pro-competitive stance towards international container shipping, with only a small risk of any deterioration in services. A further benefit lies in insurance against a future degradation of outcomes for New Zealand through carrier collusion as the market moves into a position of more constrained supply.

F11.6

The removal of competition exemptions for ratemaking agreements will not prevent shipping companies from collaborating to jointly purchase port services. However, any increase in the level of competition in the market for shipping services as a result of removing the exemptions could see a higher proportion of any gains from lower port charges passed through to New Zealand shippers.

Recommendations

R11.1

Ratemaking agreements – ones involving price-fixing or limiting capacity with the intent of raising prices – have a high risk of anti-competitive detriment. Exemptions for such agreements should be removed and authorisation mechanisms should be relied upon for assessing whether these agreements are in the public interest.

There should be a transitional period to allow the agreements in place at the time the exemption is repealed to continue until their compliance with the Commerce Act 1986 has been tested.

R11.2

The exemption for non-ratemaking agreements should be retained in the Shipping Act 1987 and be conditional on filing agreements with the Ministry of Transport for placing on a public register.

The exemption and remedial regime should apply equally to outwards and inwards shipping.

To be eligible for exemption, agreements must allow and protect confidential individual service contracts

The exemptions for international shipping in the Commerce Act should be repealed.

Chapter 12 – Regulation of international air freight services

Recommendations

R12.1

The Government should account for freight-specific costs and benefits whenever it considers changes to air services agreements or new air services agreements.

R12.2

Subject to a review of the passenger-specific impacts, the Government should consider adopting a Commerce Act-only regime for regulating international air services.

R12.3

If the Government decides to retain Part 9 of the Civil Aviation Act, it should amend Part 9 to:

- require the Minister of Transport to have regard to an assessment of the benefits and costs of trade practices that are proposed for authorisation under s.88 or s.90 of the Act, and commission regimes that are proposed under s.89;
- require an assessment of the costs arising from any potential reduction in competition as part of each assessment of benefits and costs;
- require public consultation on the assessment of benefits and costs where the trade practice or commission regime is likely to reduce competition; and
- require the publication of s.88 and s.90 authorisations that are granted.

Chapter 13 – Other regulatory issues

Findings

F13.1

Cabotage should not be reintroduced as the coastal services provided by international shipping lines are valuable to New Zealand shippers.

F13.2

The uptake of high-productivity motor vehicles (HPMV) is constrained by the reluctance of some councils to issue HPMV permits and fund upgrades to routes. Their reluctance is understandable, as under current arrangements they face significant upgrade and maintenance costs, without a corresponding increase in road funding.

F13.3

The inquiry has not reviewed whether airports are exerting market power over freight services providers. The forthcoming review of the information disclosure regime for airports under the Commerce Act will address this question.

F13.4

If the market power of ports becomes a concern, the Commerce Act provides for the Commerce Commission to undertake a Part 4 inquiry – either on its own initiative or at the request of the Government. Such an inquiry would look at whether regulation is needed, and if so, what form it should take.

F13.5

A well designed domestic emissions trading scheme is likely to be an efficient mechanism to internalise the costs of greenhouse gases emitted by freight transport operators within New Zealand. International legs continue to be exempt pending the development of effective international arrangements.

F13.6

At least some of the EU emissions trading system charges will be passed through to freight customers. Air freight prices to Germany are likely to increase by around 1.6%, and prices to the UK by approximately 1.3%.

Recommendations

R13.1

The Government should examine ways to share the increased road user charge revenue from high productivity motor vehicles with councils, so as to encourage the local road upgrades required to support these vehicles.

R13.2

Port and airport companies should periodically review the extent they allow access to their facilities by competing suppliers. Competitive provision can improve productive efficiency and customer service

R13.3

The Ministry of Transport should develop a proposal to extend the Freight Information Gathering System and subject the proposal to a regulatory impact analysis 'efficiency test', to determine whether it would deliver net benefits beyond existing information collection and dissemination.

Appendix A Public consultation

Submissions

Individual or organisation	Submission numbers ¹⁸⁸
Air New Zealand	47
Asian Shipowners' Forum	2, DR88
Auckland Council	53, DR60
Auckland International Airport Limited	38, DR79
Aviation Industry Association	23
Board of Airline Representatives New Zealand	36, DR105
Cargo Co-ordinators Shipping Agencies Ltd	DR92
CentrePort Limited	33, DR94
Christchurch City Holdings	DR82
Christchurch International Airport Limited	39, DR86
Civil Aviation Authority of New Zealand	DR66
Commerce Commission	35
Cozen O'Connor on behalf of the United States/Australia	DR89
Discussion Agreement and the Australia/New Zealand-United States Discussion Agreement and their member lines	
Customs Brokers and Freight Forwarders Federation of New Zealand Inc	17
Democrats for Social Credit	26
Employers and Manufacturers Association	7
Employment Court Chief Judge	DR106
Environment Southland	4
European Commission's Directorate-General for Competition	DR63
Export New Zealand	44, DR99
Federated Farmers of New Zealand	27, DR73
Foodstuffs (New Zealand) Limited	24
Global Shippers' Forum	45, DR103
Greater Wellington Regional Council	DR59
Hamilton City Council	DR78
International Chamber of Shipping	6, DR98
International Container Lines Committee	48, DR87
Institution of Professional Engineers New Zealand	25, DR57
ISO Limited	28, DR83
Japanese Shipowners' Association	49
KiwiRail	DR74
Kotahi Logistics LP Limited	29
Local Government Forum	DR72
Local Government New Zealand	42, DR77
Lyttelton-Mt Herbert Community Board	16
Lyttelton Port of Christchurch	20, DR80
Marstel Terminals	30
Meat Industry Association	52, DR84
Ministry of Agriculture and Forestry	32
Ministry of Transport	46, DR58
National Road Carriers (Inc)	DR75
New Zealand Airports Association Inc	41, DR96
New Zealand Air Cargo Council	8, DR67
New Zealand Chambers of Commerce	DR64
New Zealand Council for Infrastructure Development	DR65

¹⁸⁸ The plain numbers refer to submissions on the Commission's Issues Paper (Productivity Commission, 2011) and the DR numbers refer to submissions on the Commission's Draft Report released in January 2012.

New Zealand Council of Trade Unions	14, DR101
New Zealand Customs Service	34, DR97
New Zealand Maritime School	15
New Zealand Public Service Association	18
New Zealand Retail Association	19
New Zealand Shippers' Council Inc	43, DR69
New Zealand Shipping Federation Inc	1, DR81
New Zealand Transport Agency	22, DR10
Northland Port Corporation	DR70
Oceanic Navigation Limited	9
Pacific Marine Management Limited	51
Pacifica Shipping Ltd	11, DR61
Palmerston North City Council	21
Port Companies of New Zealand	31, DR90
Port of Napier Limited	10, DR93
Port of Tauranga	37, DR102
Port Otago Limited	DR76
Ports of Auckland	50, DR104
PrimePort Timaru	12, DR68
Ravensdown Fertiliser Co-Operative Ltd	3
Road Transport Forum	55
Shipping Australia Limited	DR71
Tainui Group Holdings Limited	13, DR62
Taranaki Regional Council	DR91
Waikato Regional Council	5, DR85
Wellington International Airport Limited	40

Engagement meetings

Individual or organisation

Andrew Coleman
 Air New Zealand
 Auckland Council
 Auckland Council Investments
 Arthur Grimes
 Auckland International Airport
 Aviation Industry Association of New Zealand Inc
 Ballance
 Bay of Plenty Logistics Advisory Group
 Board of Airline Representatives New Zealand
 Brent Layton
 Business New Zealand CE's Forum
 C3 Limited
 Cameron Air & Seafreight Ltd
 Canterbury Development Corporation
 CentrePort Limited
 Christchurch City Holdings Ltd
 Christchurch Engine Centre
 Christchurch International Airport
 CMA CGM & ANL Agencies (New Zealand) Limited
 Commerce Commission
 Crown Forestry
 Customs Brokers and Freight Forwarders Federation of New Zealand
 Department of Internal Affairs
 Department of Prime Minister and Cabinet
 EBOS Group Limited
 Employers and Manufacturers Association
 Expeditors International (New Zealand) Ltd
 Export New Zealand Auckland
 Export New Zealand Bay of Plenty
 Federated Farmers of New Zealand
 Foodstuffs New Zealand Limited
 Fonterra
 GS1 New Zealand
 Heart of the City
 International Container Lines Committee
 Institution of Professional Engineers New Zealand
 ISO Limited
 Ken Harris
 Kotahi Logistics LP Limited
 KiwiRail
 Local Government New Zealand
 Lyttelton Port of Christchurch
 McKay Shipping Limited
 Mainfreight
 Maersk Line
 Market Gardeners Limited
 Meat Industry Association of New Zealand Inc
 Menzies Aviation New Zealand Limited
 Ministry of Agriculture and Forestry
 Ministry of Transport
 Ministry for the Environment
 New Zealand Air Cargo Council
 New Zealand Airports Association

New Zealand Bloom
New Zealand Customs Service
New Zealand Council for Infrastructure Development
New Zealand Council of Trade Unions¹⁸⁹
New Zealand Forest Owners Association
New Zealand Institute of Economic Research
New Zealand Shippers' Council Inc
New Zealand Shipping Federation Inc
New Zealand Trade and Enterprise
New Zealand Transport Agency
New Zealand Wine Growers
Ngāi Tahu
Oceanbridge Shipping Limited
Pacific Basin Shipping (New Zealand) Limited
Pacifica Shipping Ltd
Port Companies of New Zealand
Port of Napier Limited
Port of Tauranga Limited
Ports of Auckland
PricewaterhouseCoopers
Primeport Timaru
Ravensdown
Roger Kerr
Road Transport Forum New Zealand
Rockpoint Corporate Finance Limited
Sealord
Silver Fern Farms
Tainui Group Holdings Limited
Tait Electronics
The Chartered Institute of Logistics and Transport (New Zealand)
The Treasury – Crown Ownership Monitoring Unit
The Treasury – National Infrastructure Unit
The Treasury – Kevin Guerin
The Warehouse
Wellington International Airport
World Wide Access
Zespri International Limited

¹⁸⁹ One meeting with the CTU was also attended by representatives of the Maritime Union of New Zealand, the Rail and Maritime Transport Union and the New Zealand Merchant Service Guild.

Appendices B-F Additional material on the Commission's website

Appendices B to G are available on the Commission's website (www.productivity.govt.nz). The following table indicates what this additional material covers.

Appendix	Title	Contents
B	Air services agreements and Civil Aviation Act authorisations	New Zealand's policy on air services agreements New Zealand's current air services agreements Freedoms of the air Civil Aviation Act authorisations
C	Regulation of external costs	External costs of road freight, rail freight, air freight and shipping.
D	International regulatory approaches to international shipping	International regulatory approaches before 1998 (United States, the European Union and Australia) International regulatory approaches from 1998 (the Ocean Shipping Reform Act 1998, the OECD report; the EU Consortia Exemption; developments in Singapore, Japan, Australia and the United States; APEC Guidelines Related to Liner Shipping)
E	New Zealand's regulatory approach to international shipping	Commerce Act exemption Shipping Act exemption Compatibility of the two exemptions New Zealand's regime in the context of global regulatory trends
F	Stevedores and marshallers at New Zealand ports	Stevedoring and marshalling providers for container cargo at container terminals Stevedoring and marshalling providers for non-container cargo
G	Quotes for shipping goods to and from Auckland and Sydney	Quotes for shipping goods from offshore ports to Auckland and Sydney Quotes for shipping goods from Auckland and Sydney to offshore ports

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