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Port ownership and governance models in Finland

Development needs & future challenges

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Abstract

Ports are an important part of municipalities' infrastructure networks. Their ownership and governance models in Finland range from traditional municipal departments to enterprise and company structures and to private-sector owned ports. There are external pressures to move ports to company model from other municipality ownership models in the coming years. At the same time potential to more elaborated landlord model could be explored as municipalities need steady revenues from ports without necessary being involved in any operative work.

Financial analysis reveal that ports are at present a good revenue source for municipalities, and that specialized ports are in general producing better results than those with several types of cargo and/or passenger transport. Ports tend to finance a bulk of their investment from cash flow, in some cases without compromising the owners need to receive a fixed amount of return in any given year. The ownership and governance model does not seem to contribute decisively to financial performance, which makes it more challenging for municipalities to change their current business model.

The physical number of ports should be determined by the market. However, for many municipalities the port and its economic impacts are significant and it is unlikely that a municipality would close its port even in the current economic downturn. For the competitiveness of a port the supporting basic infrastructure is the key to ensure that it will be able to compete with other ports and even alternative modes of transport.

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Preface

Municipalities in Finland are facing several challenges that are external to them, yet combined with restructuring and governance issues in the municipality infrastructures the challenges can become even more dominant in the future. In various sectors of the municipal infrastructure networks (for instance waterworks, roads, rail and ports) several ownership and governance models are utilized, and pose different types of challenges for the municipalities. Ports in Finland are partly municipality owned and controlled but there are also private ports as well. Therefore, examining restructuring in the port sector is a timely and upto now an under-researched topic as ports are facing consequences of changing global economy.

The first set of consequences is the economic and financial constraints and affects. The on-going economic downturn has seen financial resources available for municipalities become scarce, including tax revenues from residents due to increasing unemployment, and a large number of retiring workers. Continuous shortfalls in financing have meant that several needed upgrades and investments have not taken place. Backlogs are increasing combined with insufficient budgetary resources and a lack of available financing from alternative sources. This present situation is made more difficult by the changing legal environment and EU regulations.

The second set of constraints comes from the institutional arrangements. To a great extent the problems arise from limited asset management understanding within the entities and their governing bodies, which makes it difficult to plan fees and tariffs to match full cost recovery. This has led to problems in valuation of required maintenance and investment costs. There is also a lack of resources for research and development activities that is related to municipalities as a research subject and a focus on short-term management, resulting partially from the political cycles. Even though the waterworks, energy companies and ports create revenues to the municipalities, the revenues are used with short-term focus on inter-sector financing, and not on long-term needs of the sector.

The third set of constraints is the changing environment and demographic changes, which can change the demand patterns for the services. Similar pressures are also applying to service provision itself, such as an aging workforce and infrastructure needs in

the near future. However, there are also political pressures to keep the prices of services low, which does not help the management to run the operations at a sufficient profitability level. Whatever the future of ports in Finland is to be, it is likely to adapt to changes in the surrounding economy more closely than in the past.

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List of definitions

DBB ***Design-Bid-Build.*** DBB is a project delivery model where the Owner/Client procures the services of a contractor to build the project according to a specified design. This is known as the traditional method.

DB ***Design-Build.*** Design-Build is a project delivery method in which the Owner/Client procures an organization that will complete both the design and construction under one agreement. This was known as the master builder concept and is an alternative model for most infrastructure projects.

DBOM ***Design-Build-Operate-Maintain.*** DBOM is a project delivery model where the Owner/Client procures a private contractor to design, construct, operate, and maintain the project for a specified duration. The ownership remains in the hands of the Owner/Client.

DBFO / Concession ***Design-Build-Finance-Operate.*** Private investor or contractor designs, constructs and finances a facility and operates and maintains it for a certain time. After the contract period the contract might be renewed or responsibility is transferred from the concessionaire to a government agency. The ownership remains in the hands of the Owner/Client.

BOT / BOOT ***Build-(Own-)Operate-Transfer.*** A private investor design, finances, constructs, operates and maintains a facility for an agreed-upon time. After limited term of ownership the ownership is transferred to public sector at no cost.

BOO ***Build-Own-Operate.*** A private investor design, finances, constructs, operates, maintains and owns a facility for an agreed-upon time. The ownership remains in the hands of the private operator even after the expiration of the contract period.

FCF ***Free cash flow.*** The amount of funds available for a company of the operating profit after deduction of taxes and investments.

MOC ***Municipal-Owned Company.*** Operate as commercial business under Limited-liability Companies Act. Do not have societal obligations nor receive government or municipal financial support.

MOE ***Municipal-Owned Enterprise.*** Business unit, for which local council has defined the state of (financial) independence.

PFI ***The Private Finance Initiative.*** A procurement mechanism by which the public sector contracts to purchase quality services on a long term basis so as to take advantage of private sector management skills incentivized by having private finance at risk.

PPP ***Public-Private Partnership.*** Partnership between the public sector and the private sector for the purpose of delivering a project or a service traditionally provided by the public sector.

ROA ***Return on Assets.*** Company's net result, financial expenses and taxes divided by average adjusted balance sheet total.

ROCIM ***Return on Capital Invested by Municipality.*** The ratio of money sent to municipality over the money received from the municipality in the company's balance sheet.

ROE ***Return on Equity.*** Company's net result of 12 months divided by average adjusted shareholders' equity of the fiscal period.

ROI ***Return on Investment.*** Net result, financial expenses and taxes of a company divided by average invested capital of the fiscal period.

1. Introduction

1.1 Background

Ports are one of the infrastructures that form part of a municipality's technical networks. These networks and managing them as assets are becoming increasingly important for municipalities as their financial position is worsening in the current economic downturn. However, the full potential to which the municipalities can benefit from their technical networks, and in particular the ports, has not been assessed thoroughly so far. This report presents a first effort in trying to synthesize information from interviews, financial analysis and from international experiences. Ports appear to be a lost area in the infrastructure sector analyses, internationally perhaps due to the fact that through landlord models and other arrangements ports have fallen out of the scope of public sector analysis; and in Finland simply because their importance has not been fully acknowledged. In this pioneering study we have been able to analyse the majority of significant ports in Finland to provide an overview of how the industry is performing in Finland.

This study is part of the Tekes-funded[1] c-Business project. The project aims to investigate the pros and cons of different ownership and governance (O&G) models of technical networks of communities. Technical networks include, but are not limited to, transport networks and nodes (for instance ports), water and sewage networks, heating, electricity and energy, and telecommunications. The project as a whole assesses the public and business risks of different O&G models and defines a common frame – business architecture – for these models. It further attempts to point out the weak and strong points of both market-oriented and public models of the networks, and to identify prospective business potential in operating and owning the networks. The first phase of the project is carried out in Finland, where practically all the O&G model variants are already employed today.

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[1] The C-Business project has received funding alongside the Finnish Funding Agency for Technology and Innovation (Tekes) also from Federation of Finnish Municipalities, Pension Fennia, Finnish Transport Safety Agency (Trafi), Ministry of Finance, Ministry of Transport and Communications, Destia, City of Oulu and Helsinki Region Transport (HSL).

The objective of this study is to describe the existing port system in Finland and the ownership and governance (O&G) models that are used in Finnish ports today, and to analyse the strengths and weaknesses of these models, including financial analysis. In addition, this report will review the future potential for Finnish ports in terms of restructuring and other business opportunities available.

1.2 Contents of the report

This paper is divided into six sections. First, to understand the nature and operations of the ports sector in Finland the first substantive chapter of the report (Chapter 2) provides a brief history of the sea ports in Finland, major 19 of which are referred to in this report. The ports are subject to specific legislation and charging principles, which are also discussed in this chapter.

Finnish ports can be in general categorised into 4 different ownership and governance models, which vary from "traditional model" (a department under the municipality administration) to private ownership. These models and which ports are of certain type are discussed in greater detail in Chapter 3.

As the theoretical part of the study has allowed us to group the ports by ownership and governance model, in Chapter 4 we give a short description of each of the 13 ports covered by this report. These 13 were selected out of the previously mentioned 19 major seaports in Finland (defined as an average of 1 million tonnes or more traffic on annual basis). Chapter 4 also presents this empirical work carried out in this research project.

In a separate part of the study, the selected ports were analysed through financial analyses techniques developed for analysing stock-listed companies. This detailed financial statement analysis is presented in Chapter 5.

Based on the empirical work, we present a SWOT-analysis (Strengths, Weaknesses, Opportunities and Threats) of different O&G-models in Chapter 6. Also some business opportunities and impacts of legislative reforms are discussed in the Chapter. The business opportunities focus on municipalities' opportunities to use ports as a source of revenue, but also highlight business potential for private sector to take part in developing the sector further. Finally, Chapter 7 concludes from the research.

2. The Finnish port system

2.1 History and importance

Ports play an important role in Finnish business and the national economy. Almost 90 percent of Finnish exports and 75 percent of imports passes through ports, and more than 60 percent of international passenger traffic also goes by ships. Finland could be compared to an island, as the ports located on its approximately 1,000 kilometres of coast function as links in the commercial transport of goods and passengers to and from foreign countries. In addition, Finland has an abundance of lakes, and the inland ports can be accessed by foreign shipping through the Saimaa channel. Most Finnish ports are kept open to serve shipping all year long, despite the harsh winter conditions.

Finland has a total of about 50 ports handling foreign trade-related transports, and of these some ten are in the Lake Saimaa district. The target is to secure year-round services to 23 winter ports. The volume of seaborne foreign transports has doubled in the last two decades. The increase has been very even, an average of just over 3 percent a year. In 2008, seaborne imports amounted to 58 million tons and exports to 44 million tons, totalling nearly 103 million tons of transports. However, in 2009 seaborne transports decreased by nearly 20 million tons as a total of nearly 83 million tons of goods was shipped. Imports decreased by 23 per cent compared to last year and amounted to 45 million tons in 2009, while exports decreased by 15 per cent to 38 million tons. In 2009 Finland's own foreign trade transports decreased by 18 million tons, compared to last year and amounted to a total of a little more than 76 million tons in 2009. Transit transports were above 6 million tons. (The Finnish Maritime Society 2010)

A map of major Finnish ports is presented in Figure 1.

Figure 1. A Map of major ports in Finland (Finnish Port Association 2010).

The Finnish port system has very old traditions and a history as an exclusively municipal industry. According to the oldest existing documents, towns such as Naantali and Rauma, on the west coast of Finland, obtained harbour rights as early as in the 1440's. The Finnish harbour legislation underwent substantial changes in the 1990's, when in the enactment order of the constitution the Parliament repealed the privileges of towns to maintain a port, which were based on a solemn declaration given by King Gustaf III on February 23, 1789. At the same time in 1995, the private public harbour act was passed. (The Finnish Maritime Society 2010) These actions opened the way for modern port reforms in Finland.

Most ports are still owned by municipalities today, but there are also some private ports owned by industrial companies. These private ports are handling merely goods and products from an industrial plant in the immediate vicinity of the port, but there are also some privately owned public ports serving external customers. The legislation on the establishment or expansion of a privately owned public port includes, however, a permit procedure (a permit from the Government).

Several larger seaports were restructured into municipality owned enterprises (MOEs) after the renewal of municipal legislation in the 90's, and two of them have moved even further becoming municipality-owned companies (MOCs). Port of Kotka was the first port in Finland that was restructured into a municipality-owned company. The transition took place in the year 2000. Port of Hamina became a municipality-owned company year later. Both ports are owned entirely by the cities themselves and they operate under the Limited-liability Companies Act according to principles of commercial business. In fact, the ports are planning to merge in 2011 into a single limited company co-owned by both cities.

2.2 Role of port authority/administration

The port in the Finnish set up acts at the same time both as the port authority and the port administration. The port (which may have different legal status) is in charge of the port and its activities. Even when the port is organised as a private company, it has the responsibilities and duties of the port authority; the port in Finland is in charge of running the port and its activities. Stevedoring is done by independent companies, there might also be a private tug company, which may have or may not have an agreement with the port, there might be private warehouses in the port area or the port may have its own warehouses, which it leases out. (Notteboom & Winkelmans 2004)

The port has full autonomy in the decision-making related to port activities. The same applies for both administrative and business decision-making. Decision making inside the port organisation varies. In case a port is a private company, the decision-making is the same as in any other limited company. The board of directors is in charge of decision-making. In practise the managing director, i.e. the port director, is in charge of the daily decision-making. (Notteboom & Winkelmans 2004)

In case the port is a municipal company, decision-making is close to that of a limited company. There is a port board elected by the municipal council and a port director. In case the port is part of the municipal organisation, there is usually a special port board; though sometimes the port is under another municipal board, for example the technical board. Usually the port has a port director, but sometimes, in the smallest ports, the duties of the port director are taken care of by someone else of the municipal organisation, for example the technical director of the municipality. (Notteboom & Winkelmans 2004)

The ports that are private companies and the ports that are municipal companies have their separate accounts including both income statement and balance sheet. In case the port is part of the municipal administration, the port makes its own accounts, but in legal sense they are part of the accounts of the municipality. Practically all Finnish ports publish separate annual accounts, with perhaps the exception of some of the smallest ports. (Notteboom & Winkelmans 2004)

A port differs from other municipal service providers in that it does not provide services only to the inhabitants of the municipality but also to its clients. The port income consists of payments and compensation for port infrastructure development and maintenance and port services. The public ports in Finland usually pay a share of their yearly operating profit to their owners, i.e. the municipalities. (Zachcial et al. 2006)

It is a widely accepted opinion among port specialists that a port authority should have as a principal objective the full recovery of all port-related costs, including capital costs, plus an adequate return on capital. Full cost recovery should be viewed as a minimum port authority objective; once this objective has been achieved, however, the port authority can pursue other-than-financial objectives considered desirable by the government or by itself. (The World Bank 2007)

2.3 Role of port operators

Port operators (mainly stevedoring companies but also other firms operating in port area) in Finland are as a rule private companies, unlike e.g. in Germany or Sweden where port operators are often publicly owned, meaning that the port infrastructure and the port operator company are owned by the same entity. Companies that operate in ports offer not only stevedoring operations but also different auxiliary services related to freight handling, such as forwarding, ship agency and clearance services.

Stevedoring firms have traditionally handled the physical movement of cargo, vessel loading and unloading, as well as terminal operations. Stevedoring firms have often advanced from several small companies into one single port operator. With a few exceptions, the present stevedoring firms in Finland are owned by the forest and steel industry, and shipping companies. There is no legal or administrative limitation on the number of port service providers. Some stevedoring companies are operating in several ports. In Finnish ports, often the stevedoring company is owned by the main shipper customer of the port (mainly forest or steel industry). One major stevedoring company is owned by a leading Finnish shipping line. One towing company is almost having a monopoly offering towing services in most Finnish ports without real competition.

Competition in providing cargo handling services in ports has increased, but it is still typical to stevedoring services in most Finnish ports that one stevedoring company has a monopoly or dominating market position. Reasons to this are e.g. small cargo flows in small ports, long traditions and ownership bases. The owners produce also the main cargo flows for many ports. The trend seems to be that stevedoring firms operating in different ports but having the same owners are being united into bigger units. The freight forwarders act as the representatives of the cargo owners while the shipping agents acts as the representatives of the shipping companies. (Zachcial et al. 2006)

2.4 Financing and charging principles

Port infrastructure is built and maintained by the port owner, that is, by the port authority. The incurred costs are covered by port dues paid by the ports customers. The fixed structures and equipment (including large ship-to-shore cranes) in the ports are generally owned (and their use charged) by the port authority. Privately owned stevedoring firms normally finance and own all mobile cargo transfer and cargo handling equipment. In addition to port authorities, companies using the port may also build their own storage facilities.

Ports have been fully independent in their charging since the mid 1990's. Ports rent land and equipment such as cranes to the stevedoring companies. Usually the port has published a price list for this purpose. If the port has leased land or buildings, normal land-lease contracts apply which are based on commercial pricing. Port dues, charges and rents are in principle collected on a tariff basis. However, commercial rebates do apply based on annual volume or similar principles. There are no environmental or safety-based rebates in Finnish ports. (Zachcial et al. 2006)

Public ports are mainly owned by the municipalities. The overall port infrastructure (within the port area) is financed, built and maintained by the port authority. This includes:

- quays / docks,
- roads, rails on the terminal,
- terminal paving / surface finishing,
- port / office buildings,
- warehouses, and
- cranes.

The trend, though, is moving towards a landlord role for the port authorities, while private firms supply the port services. Thus the port authority concentrates more and more on maintenance and development of port infrastructure at the same time as the port operations are being outsourced or entrusted with the present companies. There may be a special fund for the investment needs of the port authority. However, in the end, the municipality is still responsible for the infrastructure investments of the port.

Since the investment costs of ports are not distributed evenly each year, external funding is also needed. When the port functions as a commercial enterprise, the most usual form of additional funding is a loan which is organised by the owners and will be paid back by the port authority. The stevedoring, forwarding and other logistics companies can finance and build their own terminals to the port area when renting the land area (normally for long time) from the municipal port authority.

The private sector invests in warehouses, machinery, other handling facilities, dock workers, mobile moving cranes, etc. Stevedoring and terminal operators are privately

owned joint stock companies and are free to set their own prices and make special agreements with customers. The companies in the port area pay normal value added tax, and they do not enjoy any privileges or tax benefits, whereas the port authority is a municipal body, so it is exempted from income tax, like other municipal instances. When organised as limited companies, however, the port authorities are treated as any other companies including the obligation to pay income taxes.

The State of Finland is responsible for financing, constructing and maintaining the land access and waterway connections to ports (outside the port area). This includes roads, rails, inland waterway connections, waterway channels etc. The State is responsible for all sea channels outside the port area, passage ways and their buoyage in Finnish waters, as well as for icebreaking. The State collects fairway dues (covering as well light housing and icebreaking costs) and pilotage fees. However the ports do also in certain cases take part in covering the costs incurred by the construction of traffic connections to ports. The Finnish Transport Agency is responsible for fairway services. Pilotage outside the port areas is the responsibility of the state owned company Finnpilot Pilotage Oy (formerly the Finnish State Pilotage Enterprise). The Maritime division of the Finnish Transport Agency and the Pilotage Company are self-financed. Fairway dues and sea pilot dues are non-negotiable and reviewed at irregular intervals. Discounts (on application) from fairway dues are offered for cruise vessels, vessels calling the ship repair yard and vessels carrying cargo in transit. Public dues and charges are normally valid for one calendar year and are reviewed on a yearly basis. (Zachcial et al. 2006)

Port dues consist of four obligatory dues: port dues on vessels, port dues on cargo, passenger and waste disposal dues. Municipalities have the authority to decide on their tariff policies. Decisions are made by the Port Board, especially in larger port cities. In the smaller ones, decisions are mainly made by the municipal Council.

Nowadays, most ports all over the world aim to cover the costs of port operations and infrastructure. This is considered one of the most important parts of port reforms. The costs are covered mainly with different kinds of port duties, fees and tariffs. It is still difficult to say whether the cost recovery in Finland has been successful because of the divergent financial valuations in different ports. In Germany, the common opinion is that the cost of port infrastructure can not be covered with port tariffs. In order to achieve full cost recovery, the port charges would have to rise substantially. This however is not possible because of the tough international competition between the ports. Divergent legislation between countries can also distort the competition, and make the full cost recovery with mere port fees even more difficult. This is why many interviewed port directors would like to see congruent practices or regulations with different countries.

2.5 Port legislation

There are only two written port acts in Finland: the one concerning municipal port orders and traffic dues (955/1976) and the other one concerning private commercial ports (1156/1994). Both acts are quite limited by content. Other legislation concerning ports is dispersed. Ports are being operated more and more commercially both in Finland and other Europe. Most Finnish municipally owned ports are nowadays public utilities and two of them are city-owned limited companies. If the enactment of a new port act will be considered to be useful, the new act should cover all ports regardless of their organisational models. The legislation on other sectors of transport and communication branches is considerably new and comprehensive compared to the legislation of port operations. (Karvonen & Tikkala 2004) The State's role in port matters is rather limited. The Government delegates specific port matters to whichever Ministry has the requisite jurisdiction. As of 1983, the handling of general port matters has been under the jurisdiction of the Ministry of Transport and Communications. (Zachcial et al. 2006)

The ministry of transport and communications started to modernize the Finnish port acts in 2008 by setting up a working group to consider the needs for overall reform of the port legislation. The objective was to get up to date and practical legislation for port activities, which also takes account the special characteristics of the port business. The work group assesses the needs for regulation at least in the following questions:

- private public ports subject to licence
- separation of the authority operations
- ports as municipal enterprises
- foreign ownership and maintenance support performance
- fees under public law and pricing principles
- jurisdictional matters of port authorities.

The municipal legislation is going to be renewed in the near future. This has obvious effects to municipal enterprises operating in competing markets, such as energy companies and ports. EU's pressure concerning competition neutrality problems with this type of municipal enterprises will soon result to extinction of the traditional model ports and ports operating as MOEs. The fact is that ports operate in fully competing markets which gives an advantage position to the ports operating as traditional or enterprise models mainly because of the tax exemption and bankruptcy procedure benefits. Those ports have to be restructured into municipal company model or as private ports. Most of the interviewed ports have already started to plan the soon coming restructuring process. It is going to be a challenge for them, but it also gives the possibility to develop their business operations and improve competitiveness.

3. Port ownership and governance models

3.1 Traditional port governance models

The World Bank port reform toolkit (2007) outlined four port administration models and assessed the strengths and weaknesses of each model. The choice of model adopted in each country is influenced by the way the ports are organized, structured, and managed. The models outlined in the toolkit are the Service Port, the Tool Port, the Landlord Port, and the Private Service Port (see Table 1). These models differ by whether the services are provided by public sector, private sector or mixed ownership providers, their orientation (local, regional or global), who owns the superstructure and capital equipment, and who provides dock labour and management.

Public service port model is a predominately public model in which the Port Authority owns the land and all available assets (fixed and mobile) and performs all regulatory and port functions. All cargo-handling operations are performed by labour directly employed by the Port Authority. This model is used in many developing countries. In Service Ports, the port is usually controlled by the Ministry of Transportation. The Chairman of the Port Authority is usually a civil servant responsible for port administration, and who directly reports to the appropriate Minister. In some cases, cargo-handling services are performed by separate public entities; this division of operations between separate public entities can present unique management challenges. Under this model, the same organization has the responsibility for performing regulatory functions, developing infrastructure and superstructure, and executing operational activities. Generally there is an absence of private sector involvement in port activities.

The strength of this model lies in the fact that facilities development and operation are the responsibility of only one entity, making for a streamlined and cohesive approach to growth. On the other hand, the death of internal competition can lead to inefficient port administration, or to a lack of innovation, and services that are not user-oriented or market oriented. Dependence on government for funding may lead to wasteful use of resources or under-investment.

Tool port model is characterized by divided operational responsibilities. The Port Authority owns, develops, and maintains the port infrastructure and superstructure; including cargo handling equipment such as quay cranes, forklift trucks etc. The operation of Port Authority equipment is usually performed by Port Authority labour, but other operations are performed by private cargo-handling firms, on board vessels as well as on the quay and apron. The private operators are usually small companies.

While the model results in an avoidance of duplication of facilities because investment in infrastructure and equipment is provided by the public sector, the fragmentation in responsibility for cargo-handling can lead to conflict between small operators and between the stevedoring companies and port administrators; another weakness of the model is that there is also a risk of under-investment. Strong stevedoring companies are not developed as a local economic benefit.

In the **Landlord port model**, the Port Authority maintains ownership in the port while the infrastructure is leased to private operating companies. The responsibilities of the Port Authority as landlord include economic exploitation, the long-term development of the land, and the maintenance of basic port infrastructure such as access roads, berths, and wharves. The private operating companies that lease from the Port Authority provide and maintain their own superstructure and purchase and install their own equipment. Dock labour is also employed by the private leasing companies. (Brooks 2004)

The strength of this model is that the same entity both executes operations and owns the cargo-handling equipment; therefore, the planning is likely to result in better outcomes and be more likely greater responsiveness to changing market conditions. However, there is a risk of over-capacity as more than one private operator may pressure for expansion. Also, there may be duplication of marketing effort as both terminal operators and the port authority visit potential customers; greater co-ordination of marketing and planning is required with this model.

In the **Private Service port model**, the public sector no longer has any interest in port activities. Port land is owned by the private sector. All regulatory functions and operational activities are performed by private companies. This is the model used in many ports in the United Kingdom.

This model often results in investment in port operations that are flexible. A particular strength of the model is that port development and tariff policies tend to be market oriented. On the other hand, this type of model may result in monopolistic behaviour as well as a loss of public involvement in developing long-term economic policy and strategies.

Table 1. Traditional port management models (The World Bank 2007).

Type	Infrastructure	Superstructure	Port labor	Other functions
Public service port	Public	Public	Public	Majority public
Tool port	Public	Public	Private	Public/private
Landlord port	Public	Private	Private	Public/private
Private service port	Private	Private	Private	Majority public

3.2 Port governance in Finnish ports

The port governance model that is widely used by municipal ports in Finland could be considered as a combination or modification of the Landlord – and Tool port models. The port authority owns, develops, and maintains the port infrastructure and part of the superstructure. The operation of port authority equipment is usually performed by port authority labour, but other operations are performed by private cargo-handling firms. The private operators are usually rather small companies. Similar to the landlord model port authority maintains ownership in the port while the infrastructure is leased to private operating companies.

The so-called Finnish model however differs from the original models in some ways. One significant feature in the Finnish model is that most ports in Finland are rather small in size internationally compared, so the number of port operators is very limited. In most cases there is only one "main operator". The operators and ports have been traditionally closely connected for a very long time and in many cases could be described as strategic partners. Hence, in practice new operators (mainly stevedoring companies) have no realistic possibilities to enter the market or at least it is very difficult. One other significant difference to the landlord model is that Finnish ports often own cranes, warehouses and other superstructure themselves, and also provide lifting -, warehousing etc. services. In the landlord port model private operators would handle all of the needed operations. Of course, there are also ports that operate more purely following the principles of the landlord or tool port models. The port of Helsinki in Vuosaari is an example of a port utilizing the landlord port model. There are also quite a few smaller municipal ports that have only limited number of small firms operating in the port, them being examples of ports utilizing the tool port model.

3.3 Present state of port ownership in Finland

Ports – like other technical infrastructure networks in Finland – are typically owned and managed by the public sector as they are still considered as critical infrastructure by the state and the municipalities. A public body (typically a municipality) can also be the

owner of the private company owning the port. Irrespective of the ownership the port has at least three functions to fulfil. A port manages and develops the port area (land owner function). This covers managing and developing port estate, conceiving and implementing port policies and developing strategies, supervising major civil engineering works, co-ordinating port marketing and promotional activities, providing and maintaining fairways, quays etc. and providing or arranging road and rail access to the port facilities. The second function covers transferring goods and passengers between land and sea. Port regulatory function covers maintaining the control function, providing vessel traffic management, enforcing applicable laws and regulations, licensing port works, safeguarding port users' interest against the risk of monopoly formation and controlling of natural monopolies.

The ownership models of Finnish ports can be classified to four main categories: the traditional municipal model, municipal enterprises model, municipal company model and the private model. There are no longer state owned ports in Finland. Each of the four models has their own advantages and disadvantages, which will be discussed below.

3.3.1 Traditional municipal model

The traditional model refers often to a technical organization that has its own workforce, called direct labour, which can to perform most or all the required services. This model also includes the case in which the technical organization outsources services, but only as an optimization or when the requisite skills are lacking. The organization typically carries out design, construction, maintenance, administration, and other needed services for the community.

The most common ownership model for Finnish ports, especially for comparatively small inland ports, is still the traditional ownership where the port is a legal part of the municipality as a budgetary unit. Traditional ports do not necessarily need to have separate financial statements like MOE-ports, containing profit and loss accounts, funds statements, and balance sheets. However, many of the traditional municipal ports have decided to separate these financial statements from the municipality's figures. Traditional ports do not differ drastically from MOE-ports when looking the operational activities. Both models have exemption from taxes, and they can use private port operators in addition to their own services.

There are still about 30 traditional municipal ports in Finland at the moment. Most of them are located on the shores of Saimaa and other inland lakes. There are also few exceptions like the port of Naantali, which is the third largest seaport in Finland. One different example is from Tornio, where the city has leased the port operations as a whole to the stainless steel company Outokumpu. In principle the port is still a traditional municipal port.

3.3.2 Municipality-owned enterprise model

The Municipality-owned enterprise (MOE) model emerged in the 1990s when the privatization movement began to spread to the state and municipal ownership levels. The MOE model was intended to bring efficiency, cost accountability, and business entrepreneurial concepts into the public organizations. Another driver was to reduce the size of government and allow the potential for private sector involvement first in service delivery and later also in financing.

Municipality-owned enterprise is a typical ownership model for Finnish seaports. Enterprise model is a way to organise municipal business activities. It is an interdependent part of the municipal administration and finances. Ports following the so-called municipal enterprise model are independent units in terms of accounting to which the council of the municipality has granted a more independent budgetary status than that of other municipal functional units (like traditional ports). According to the instructions of the Municipal Section of the Accounting Board, municipal enterprises draft separate financial statements containing a profit and loss account, a funds statement and a balance sheet. The separate financial statement of a municipal enterprise is integrated into the municipality's financial statement to form an overall financial statement.

The profit and loss account in the municipal budget includes settlements between the municipality and a municipal enterprise (internal interest paid and return on the municipal enterprise's fixed capital) but not the municipal enterprise's "own" profit and loss estimates. Hence a municipal enterprise is not linked to the municipal budget "line by line". According to the budget recommendation of the Association of Finnish Local and Regional Authorities, the municipality must also compile for its budget a profit and loss statement that includes the profit and loss estimates of the municipal enterprise line by line and from which the interest paid on internal loans and the return on fixed capital have been eliminated. The municipality can use this profit and loss estimate in communicating about its budget to the public.

Some of the ports in the USA operate a bit like MOE-ports in Finland. One example is the port of Oakland in California. The port owns, manages and markets seaport facilities on San Francisco Bay and the Oakland Estuary. The seaport ranks among the top 4 in the nation and 20 in the world in terms of annual container traffic. The Maritime division also leases and rents facilities for railroad and trucking operations for transporting import and export cargo. The port is an "independent economic, self-supporting entity". The port is governed by the board of seven commissioners appointed by the mayor of Oakland. Most important decisions must be accepted by the board, which is politically selected. The state and the city have "entrusted" the port area to Port of Oakland via a contract. In principle, the port is politically governed, although there is some management freedom and not utilising the city's budget. The port governance model can be categorised as a "landlord port", where the business of the port is to lease or rent its fa-

cilities to port operators who in turn serve the carriers. There have not been any discussions concerning the changing of current ownership and governance model.

3.3.3 Municipality-owned company model

The Municipality-owned company (MOC) model is considered the next progression phase for the MOEs. Many of the state owned enterprises have been restructured into State-owned companies (SOCs) as a result of progression and the EU ruling. This decision has reflected on the MOEs which have been converted to a MOC when the MOE has potential for a good return on the investment, and is prepared and competent to compete against the domestic private market players or international competition. There may have also been other considerations favouring the change.

Municipality-owned companies operate under Limited-liability Companies Act as normal limited companies. They operate as commercial businesses and do not have societal obligations like the MOEs and receive no government or municipal financial support (Kähkönen 1996). MOCs can also be expected to make profit and to provide reasonable return on capital to the municipality (Jalkanen et al. 1996). Lines of business where MOCs operate are usually regulated, but at the same time markets are open for competition. MOCs can develop their business activities; make decision about their products and pricing; and choose their customers on the basis of market situation. Some MOCs are however regulated, with a special enactment or alike, because they usually have a socially or nationally important role requiring government oversight. (Heikkinen et al. 1996)

The Port of Kotka was the first port in Finland that was restructured into a municipality-owned company (MOC). The transition took place in the beginning of 2000. The company is part of the City of Kotka Group in accordance with the Finnish Local Government Act. The port operates under the Limited-liability Companies Act according to principles of commercial business. The port of Hamina became municipality-owned company in 2001. The share capital is owned entirely by the town of Hamina. Port of Hamina Ltd., for its part, owns the stevedoring enterprise HMT Ltd. and also other operator working in the port area.

3.3.4 Private port model

Fully privatized ports (which often take the form of a private service port) are few in number internationally, and also in Finland. There are about 10 ports in Finland that are owned by private companies and industries, the biggest ones including Neste Oil's port in Sköldvik, Porvoo and Inkoo Shipping Ltd. Private ports can be found mainly in the United Kingdom (U.K.) and New Zealand. Full privatization is considered by many as

an extreme form of port reform. It suggests that the state no longer has any meaningful involvement or public policy interest in the port sector.

In fully privatized ports, port land is privately owned, unlike the situation in other port management models. This requires the transfer of ownership of such land from the public to the private sector. In addition, along with the sale of port land to private interests, some governments may simultaneously transfer the regulatory functions to private successor companies. In the absence of a port regulator in the U.K., for example, privatized ports are essentially self-regulating. The risk in this type of arrangement is that port land can be sold or resold for non-port activities, thereby making it impossible to reclaim for its original maritime use. Moreover, there is also the possibility of land speculation, especially when port land is in or near a major city. Furthermore, sale of land to private ports may also sometimes raise a national security issue.

Privatization can be either comprehensive or partial. The latter takes the form of a publicprivate partnership (PPP) and is usually combined with the introduction of a landlord port authority. Comprehensive privatization remains an exception and is not a preferred option for major ports. (The World Bank 2007)

4. Empirical analysis of O&G models

4.1 Studied ports

This study includes 19 case examples of Finnish seaports and one benchmark-case from the USA (the Port of Oakland). Most of the information has been gathered from the interviews of port directors but also from various written sources such as websites, annual reports, statistics, articles and dissertations.

Table 2. Studied ports (figures from 2009).

Port:	Ownership:	Personnel:	Net sales (k€):	Traffic (tn):	Containers (TEU):
Sköldvik	Private	70	-	20 787 736	-
Helsinki	MOE	200	81 234	9 770 321	357 204
Kotka	MOC	56	27 524	7 531 584	345 939
Naantali	Traditional	16	7 217	7 250 626	12 206
Kokkola	MOE	25	12 518	5 490 259	7 083
Pori	MOE	61	13 937	5 347 686	29 087
Rauma	MOE	50	13 638	5 045 886	143 269
Raahe	Traditional	2	2 555	4 940 626	3 977
Hamina	MOC	35	10 410	3 557 212	108 133
Oulu	MOE	29	5 321	3 134 094	30 224
Turku	MOE	122	22 890	2 721 132	16 815
Hanko	MOE	20	7 130	2 475 598	38 071
Kemi	MOE	29	4 975	1 785 497	22 113
Vaasa	MOE	14	2 426	1 357 459	-
Tornio	Traditional	2	-	1 349 401	10 051
Inkoo Shipping	Private	40	5 324	1 275 885	-
Pietarsaari	MOE	7	1 929	1 260 280	1 278
Loviisa	Traditional	4	1 402	1 179 713	-
Uusikaupunki	MOE	4	1 305	887 778	-

Table 2 presents studied ports in order of the amounts of total traffic in 2009. Selected ports are the 19 biggest seaports in Finland in terms of total transported traffic in tonnes. Their combined traffic represents about 90% of the total port traffic in Finland. The

ownership model, personnel, net sales and container traffic of each port is also shown in the table.

During the project the researchers also visited the Port of Oakland, which offers an international comparison to Finnish case studies. The business model and operation of the port of Oakland is presented in the following section.

4.2 International experience: Port of Oakland

The Port of Oakland owns, manages and markets seaport facilities on San Francisco Bay and the Oakland Estuary. A map of Port of Oakland is shown is Figure 2. The seaport ranks among the top 4 in the nation and 20 in the world in terms of annual container traffic. The Maritime division also leases and rents facilities for railroad and trucking operations for transporting import and export cargo.

The Port of Oakland was the first major port on the Pacific Coast of the United States to build terminals for container ships. It is now the fourth busiest container port in the United States; behind Long Beach, Los Angeles, and Newark. Development of an intermodal container handling system in 2002 culminated over a decade of planning and construction to produce a high volume cargo facility that positions the Port of Oakland for further expansion of West Coast freight market share.

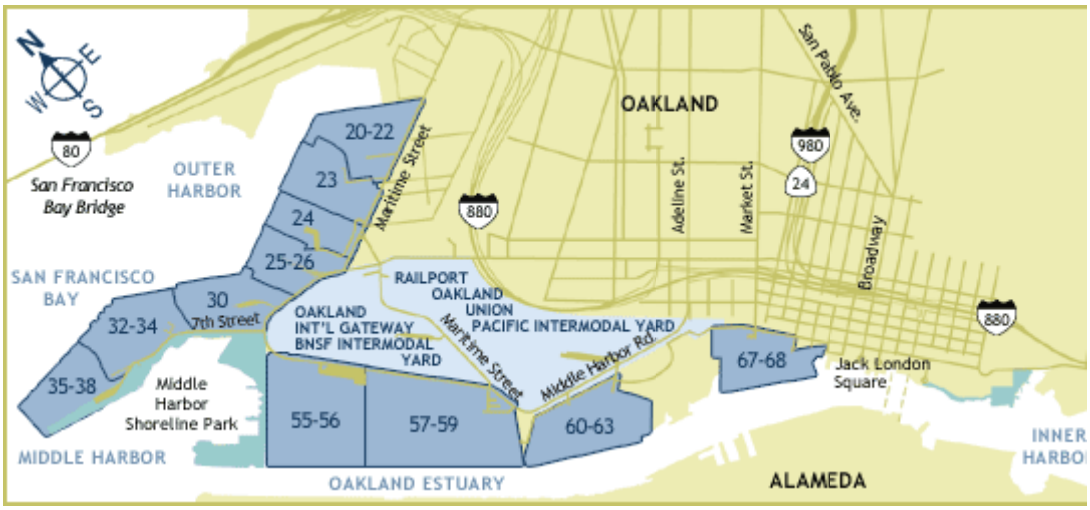

Figure 2. A Map of Port of Oakland (Port of Oakland 2009).

The history of the Port extends all the way back to the great gold rush in the 1860s and it was the first port to facilitate Trans-Pacific Ocean crossing transport. The Port of Oakland was established in 1927, and is a world-class international cargo transportation and distribution hub. Located on the mainland shore of San Francisco Bay, one of the great natural harbours of the world, Oakland was among the first ports globally to spe-

cialize in the intermodal container operations which have revolutionized international trade and created the global economy. Since 1962, the Port has spent more than $1.4 billion to construct 1210 acres of marine terminals, intermodal rail facility, and maritime support area. This includes over $700 million for the current Vision 2000 program, which includes development of two new maritime terminals, a new intermodal rail facility, deepening channels and berths from -42' to -50', and a new public park and wildlife habitat. Most of the landside projects have already been completed or are nearing completion.

Oakland's 20 deepwater berths and 35 container cranes, 29 of which are Post-Panamax size, are backed by a network of local roads and interstate freeways, warehouses and intermodal rail yards. Ten Container terminals and two intermodal rail facilities serve the Oakland waterfront. The Union Pacific and BNSF railroad facilities are located adjacent to the heart of the marine terminal area to provide a reliable and efficient movement of cargo between the marine terminals or transload facilities and the intermodal rail facilities.

The Port of Oakland loads and discharges more than 99 percent of the containerized goods moving through Northern California, the nation's fourth largest metropolitan area. Oakland's cargo volume makes it the fourth busiest container port in the United States, and ranks San Francisco Bay among the three principal Pacific Coast gateways for U.S. containerized cargoes, along with San Pedro Bay in southern California and Puget Sound in the Pacific Northwest. About 58.9 percent of Oakland's trade is with Asia. Europe accounts for 10.3 percent, Australia/New Zealand and South Pacific Islands about 4.7 percent and other foreign economies about 8.8 percent. About 17.3 percent of Oakland's trade is domestic (Hawaii and Guam) and military cargo. California's three major container ports carry approximately 50 percent on the nation's total container cargo volume.

The port facilitates eight stevedoring operators, whose customers are the world's biggest carriers, such as Maersk, Matson, Hanjin, K Line, etc. The operators are on leasing contracts for 15–50 years. The trend is towards long-term leases which makes the cash flows more predictable and stable. This consciously is not a revenue maximising strategy for the port. The port leases the land and the cranes to operators, but builds the terminals and other superstructure itself. In recent leases also the cranes are taken care of by the lessees. The main cash flow comes from the leasing contracts. The operators of the port collect the fees for docking, waste management, and other vessel services. The fairway fees are collected by the operators. The operators are also responsible for freight management applications.

The state and the city have "trusted" via a contract the port area to Port of Oakland (partly state land, partly federal (military), partly city land). In principle, the port is politically governed, although there is some management freedom and not utilising the city's budget. However, social aspects, such as environment and employment are strongly present in the decision making.

There are about 50–60 thousand local jobs associated with the port and trade flows through it, so the overall impact is just too evident to justify the consideration of any outsourcing or similar. Oakland needs the port that is bringing in indirectly millions of dollars of tax revenues. The profit the port makes is hold within the port, not distributed as "dividends" to owners.

As a whole, the port's success is in the end based on its favourable geographical position, connecting the Asian-American trade routes, having a good population and industrial basis, connecting with rail and highway infrastructure as well as on its active marketing and networking and success to follow trade trends, such as containerisation. The port governance model can be categorised as a "landlord port", where the business of the port is to lease or rent its facilities to port operators who in turn serve the carriers. The port is governed by the board of seven commissioners appointed by the mayor of Oakland. Most important decisions must be accepted by the board, which is politically selected. There have not been any discussions concerning the changing of current ownership and governance model. The port is an "independent economic, self-supporting entity", and it is operating a bit like MOE-ports in Finland. The following sections present the Finnish case examples.

4.3 Traditional model ports

4.3.1 Port of Naantali

The Port of Naantali is a traditional municipal port and part of the city of Naantali as a budgetary unit (Figure 3). The port of Naantali is the fourth largest port for imports and seventh largest port for exports in Finland. The Port's main volumes derive from liquid and dry bulk materials and ferry goods. Naantali is a significant center for bulk goods operations, thanks to its large storage facilities.

Increasing ferry and unitized cargo traffic (especially between Sweden) has lead to significant investment in port infrastructure, and allows several daily services to Scandinavia and Northern Europe. The Port of Naantali offer a fast regular service connection to Kapellskär reducing transport times to only eight hours. Half of all seaborne lorry transportations by ferries between Finland and Scandinavian are transported via Naantali. The Port of Naantali also provides and markets free capacity for RoRo traffic.

In 2007, overall traffic passing through the port amounted to over 8.5 million tonnes. The port remains Finland`s third largest public port, and the fourth largest port overall in terms of annual tonnage. Over 3.1 million tonnes (36%) were loaded and 5.4 million tonnes (64%) unloaded in the port. Over 80% – around 6.8 million tonnes – of the total traffic comprised foreign exports and imports.

A total of 2,176 vessels called at the port: their combined gross capacity amounted to over 43 million tonnes and their net tonnage was around 14.3 million tons. Based on the

amount of the vessels, the port of Naantali is the fifth busiest port in Finland. Passenger traffic on the ferries amounted to a total of 49 866 people.

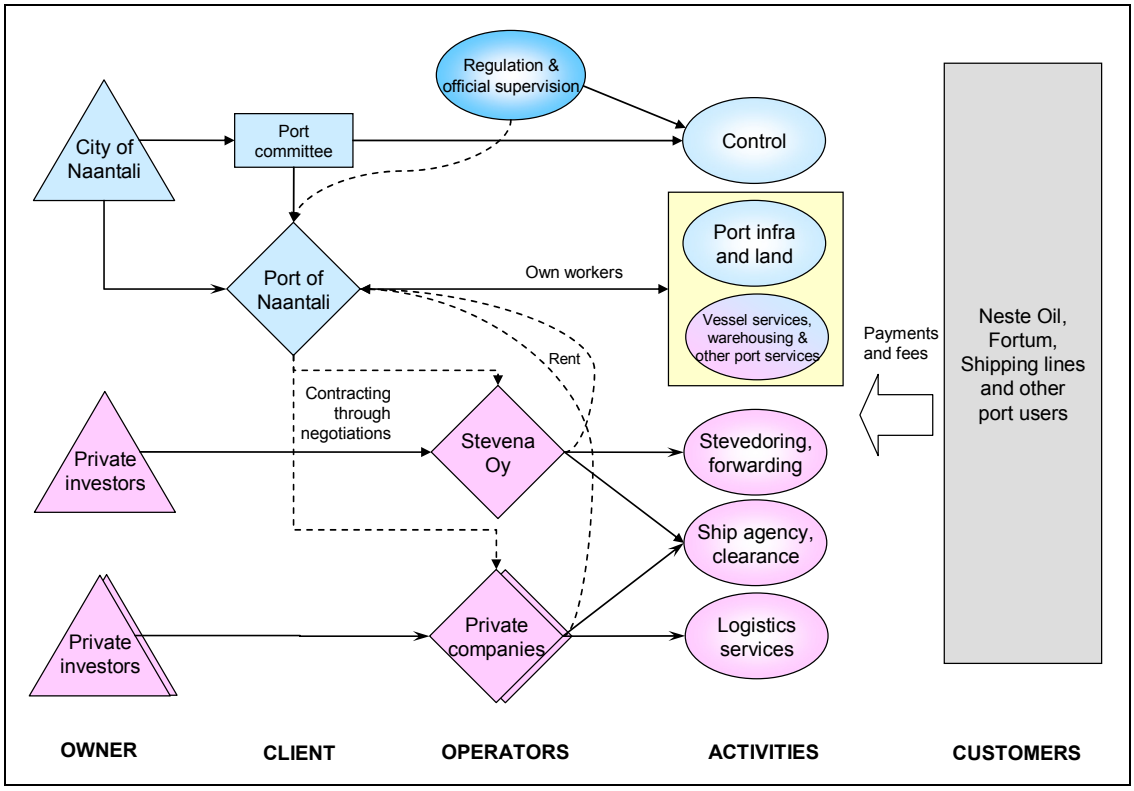

Figure 3. The ownership model of Port of Naantali.

The basic financial data of Port of Naantali is presented in Figure 4. The net sales have grown over the period 2002–2008 with a decline in 2009 as a consequence of the economic recession in Finland. Over the period of analysis the port has produced a healthy operating profit and the net result has been positive for all the years. Changes in investments have led to declines in operating profit for certain years, but appear to have also external funding as changes are not corresponding to changes in gross investments. Returns to municipality have varied from year to year, a pattern that is different from that of entities that generate fixed revenues to municipalities for all the years. Examples of this revenue pattern will follow in the following case studies.

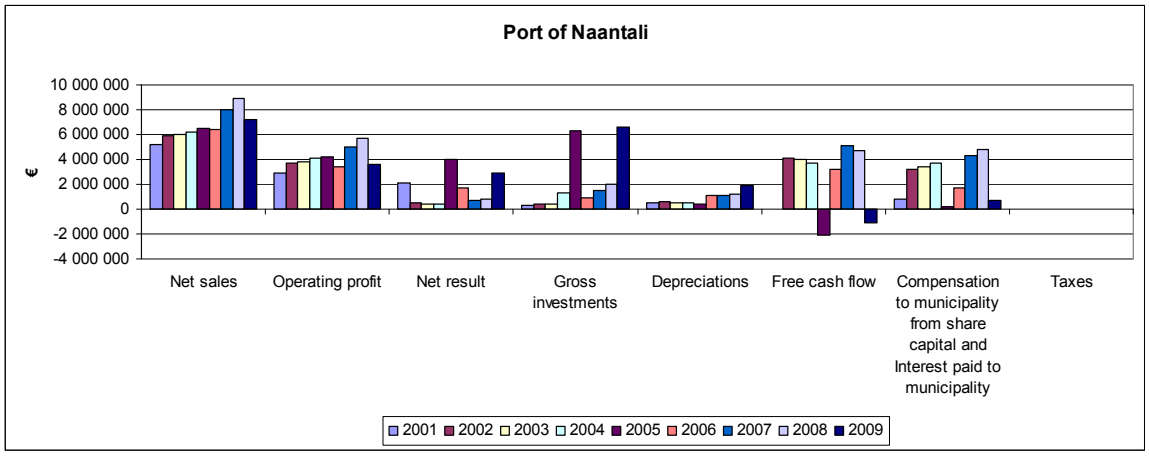

Figure 4. The basic financial data of Port of Naantali.

4.3.2 Port of Raahe

The Port of Raahe is a traditional municipal port and an interdependent part of the city of Raahe as a budgetary unit, although it operates under the guidance of executive board of municipal enterprises (see Figure 5).

Raahe Port offers sea transport connections to the UK, continental Europe, the Mediterranean, and further away. The proximity of the port and industrial area of Raahe with good road and rail links to inland and to Russia offer a diversified network for import and export trade.

Measured in terms of tonnage throughput and ship calls Raahe is one of busiest international ports in Finland. Raahe specialises in steel, bulk, sawn goods and containers. The Port of Raahe operates and serves all year around.

Port of Raahe offers regular sea transport routes with follow-up transport and warehousing facilities in destination countries. Port of Raahe means a network for import and export trade.

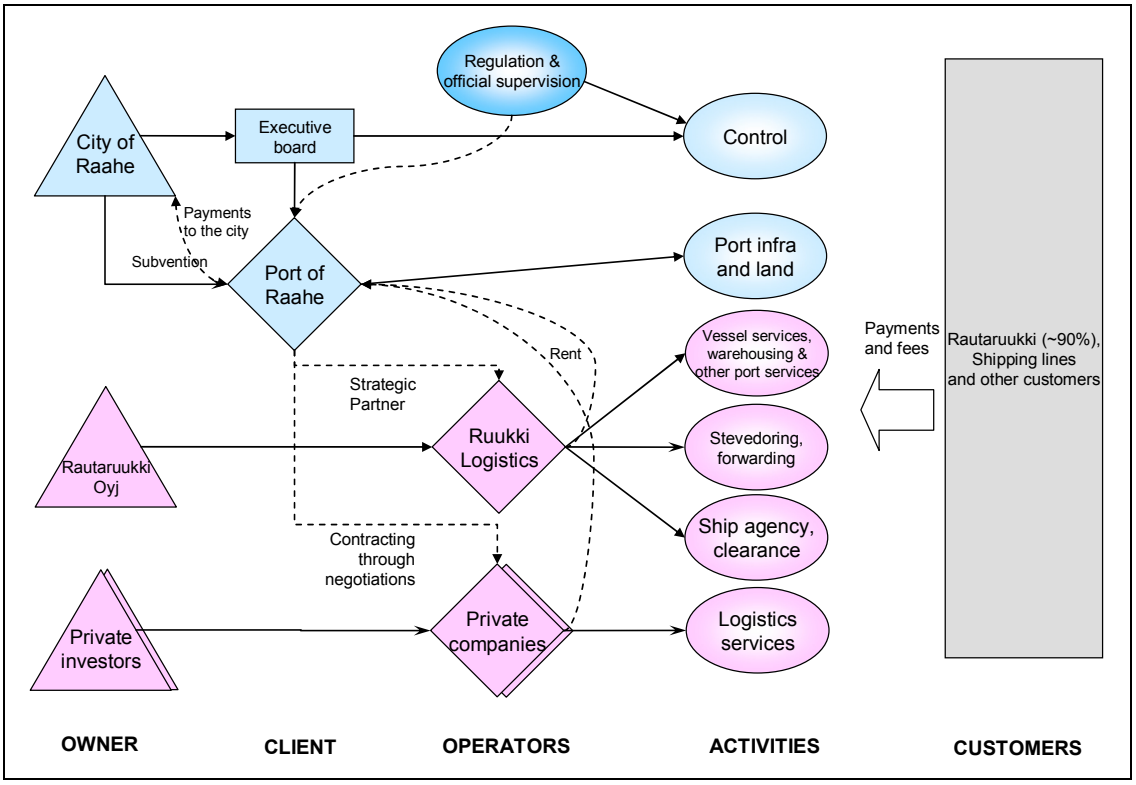

Figure 5. The ownership model of Port of Raahe.

For Port of Raahe, no financial data were available for analyses.

4.3.3 Port of Tornio

The Port of Tornio is an interesting exception in Finnish port sector. The city of Tornio has leased the port area and all of the port operations as a whole to stainless steel company Outokumpu with a 50 year long contract. The port is managed and operated by a subsidiary of Outokumpu. The ownership model is presented in Figure 6.

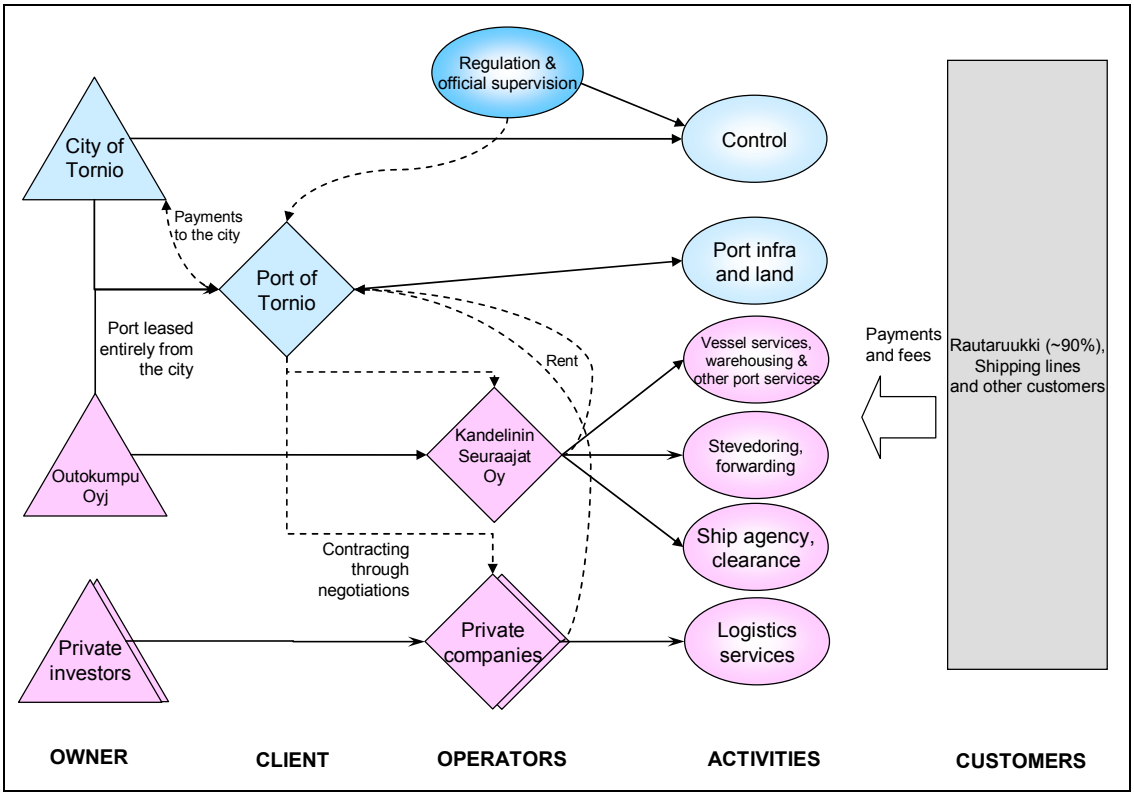

Figure 6. The ownership model of Port of Tornio.

For Port of Tornio, no financial data were available for analyses.

4.3.4 Port of Loviisa

The Port of Loviisa is a communally-owned port and its main cargoes in import include coal and crude minerals and in export, sawn wood and cereals. The amounts of handled cargo have been relatively small and the port cannot grow much with the current infrastructure. There are plans to build a new berth to the port in the near future. In the future, it could be possible that the Port of Loviisa could take its share of e.g. Russian transit traffic. In principle, the location of the port is good, and there are road and railway connections to the port, although the railway is in the need of improvement. (Kuronen et al. 2008) The ownership model of port of Loviisa is presented below in Figure 7.

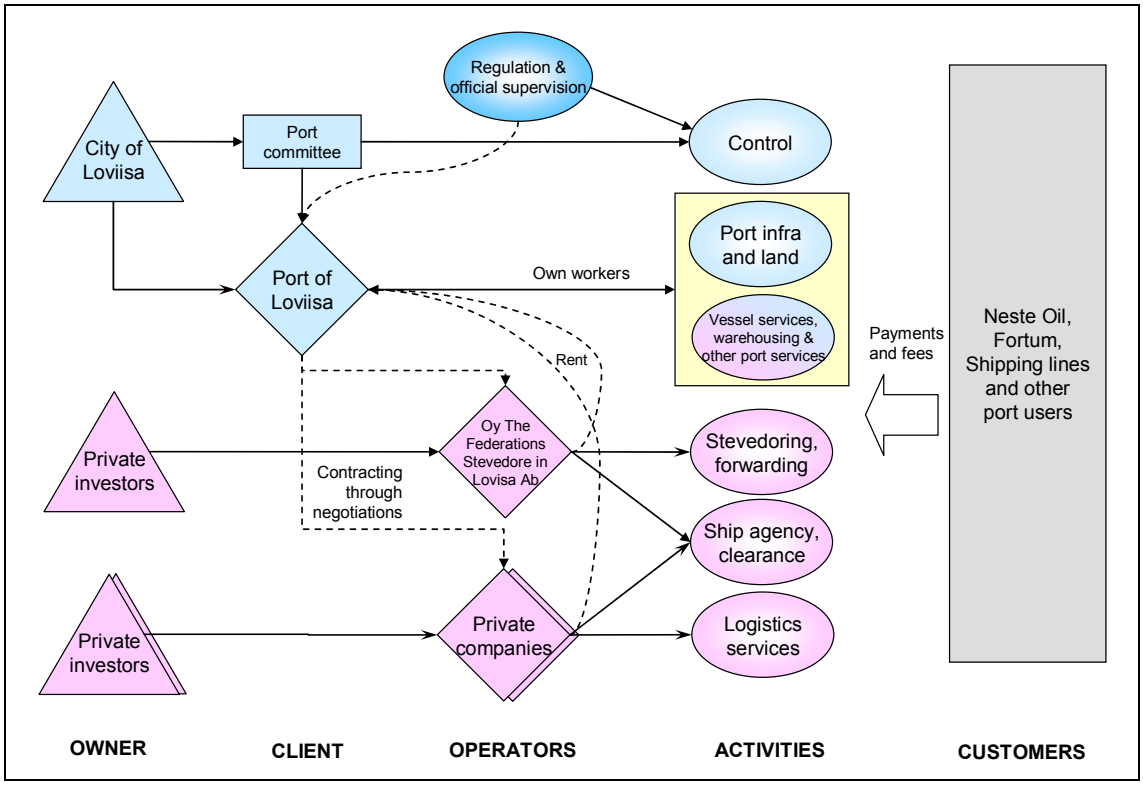

Figure 7. The ownership model of Port of Loviisa.

For Port of Loviisa, no financial data were available for analyses.

4.4 Municipal owned enterprise (MOE)

4.4.1 Port of Oulu

Port of Oulu is a municipal enterprise fully owned by the city of Oulu. It operates under the guidance of the Board of Municipal Enterprises, which is responsible for operations and profitability of municipal enterprises. The Board is accountable to the City council and must operate in accordance with operational and financial objectives and profit requirements set by the City council. The city establishes annually revenue targets for the port, and requires roughly 15% of net revenue returned to the city as income. In 2009 the port of Oulu returned 0.8 M€ to the city with the total turnover of 5.32 M€. The ownership model of Port of Oulu is presented below in Figure 8.

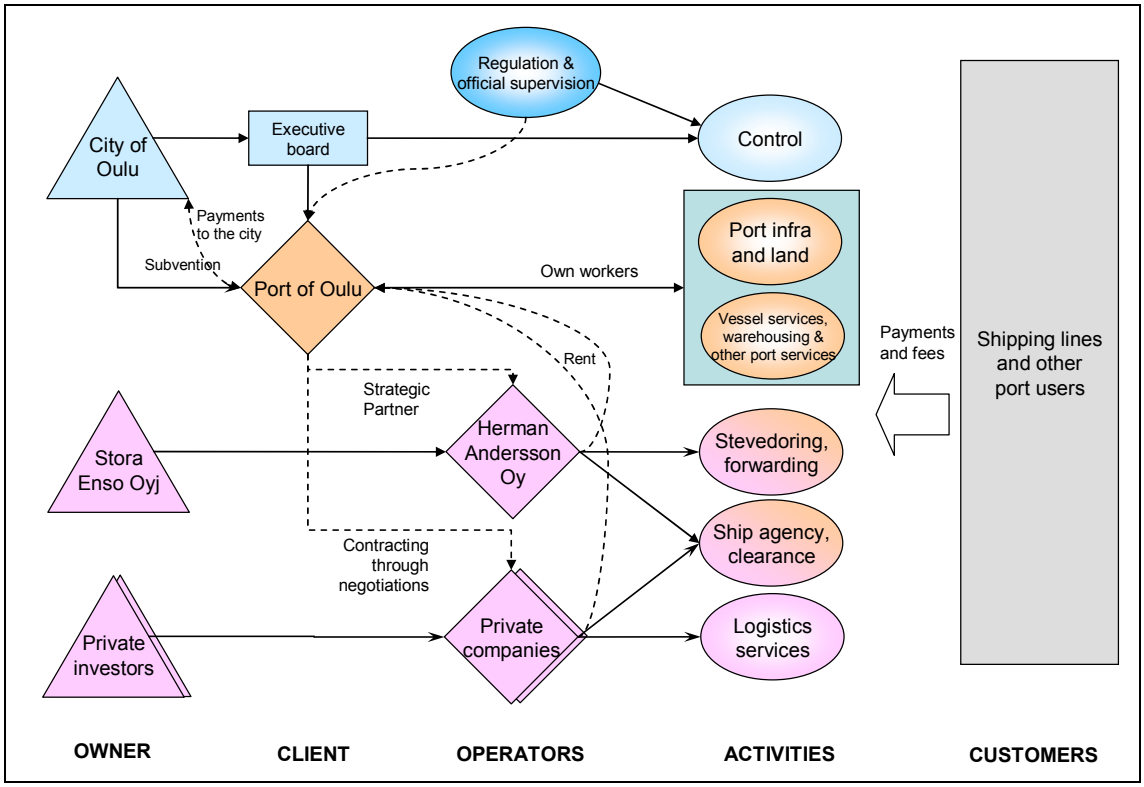

Figure 8. The ownership model of Port of Oulu.

The port's budget is separated from the city's budget and it operates mainly within income financing received from the port users, port operators and other customers. Port users pay fees for port usage and provided services according to the listed prices, which are verified annually. The port operators, logistics companies and other enterprises providing services in the port area must also pay rent for the use of land area and infrastructure. In addition the city of Oulu subsidizes the port with a small sum each year. If loan is needed for e.g. investments, the port can borrow money from the city.

The data on port of Oulu financial performance is presented in Figure 9 below. Oulu has produced a positive operating profit in all the years in study, despite some heavy gross investments during several years. Compensation to municipality of Oulu has been less in those years, indicating that Oulu is not following a fixed compensation scheme.

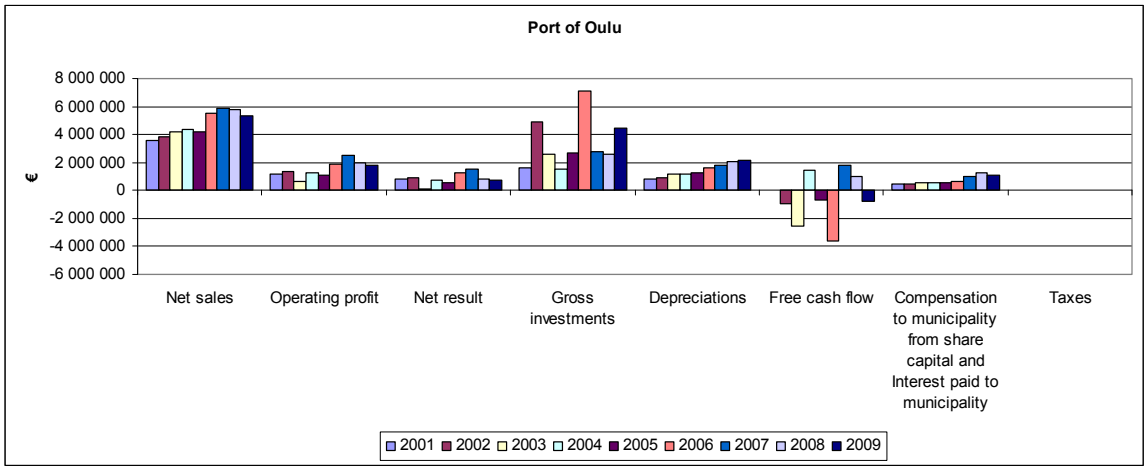

Figure 9. The basic financial data of Port of Oulu.

4.4.2 Port of Kemi

The Port of Kemi in the Bothnian Bay is an import/export harbour for the industry of the Barents Region. The harbour provides a gateway all year around to the northern areas of Finland, Sweden, Norway, and the Murmansk area in Russia. Most of the local forest industry's products (paper, pulp and kraftliner) are exported through the port and it is also a significant harbour for raw material imports.

The Port of Kemi consists of the Ajos and Veitsiluoto harbours, and the oil harbour which is a part of the Ajos harbour. These harbours have around 600 ship calls each year and the volume of goods traffic was just above 3 million tonnes in 2007 before it decreased to 2.3 million tonnes in 2008. Export and import are almost in balance in the Port of Kemi measured with total tonnes. Anyway, because the three largest imported goods categories (liquid fuels, chemicals and wood chips) are bulk by nature, the container traffic is unbalanced and lot of containers come empty. The total number of overseas containers handled by the port in 2008 corresponded to 27,000 TEU and more than 5,500 SECUs (Stora Enso Cargo Units) were also handled. Almost all of those used to export Stora Enso's paper that is the most significant imported goods category.

Port of Kemi is a municipal enterprise fully owned by the city of Kemi. It operates under the guidance of the management board which members are selected among the members of the city council. The Board is accountable to the city government and council, and it must operate in accordance with operational and financial objectives and requirements set by the city council. City of Kemi charge 9% interest of basic capital invested in Port of Kemi. In 2008 Port of Kemi paid 1,604 M€ in interest to the city against the budgeted basic capital 17,825 M€.

Budget of the Port of Kemi is separated from the city's budget and it operates mainly within income financing received from the port users, port operators and other custom-

ers. Port users pay fees for port usage and provided services according to the listed prices, which are verified annually. The port operator and other enterprises providing services in the port area must also pay rent for the use of land area and infrastructure. Port of Kemi can make small investments with its own investment money or operating capital, but bigger ones requires "loans" from the city. At the moment there is ongoing discussion about expanding the port for iron ore transports. The project in question is so huge that state government or private sector involvement is needed to finance it. (Pekuri 2009)

The ownership model in the Port of Kemi (Figure 10) follows traditional splitting where usually port area and infrastructure as well as basic port services belong to public company and operating activities to separate private operator company.

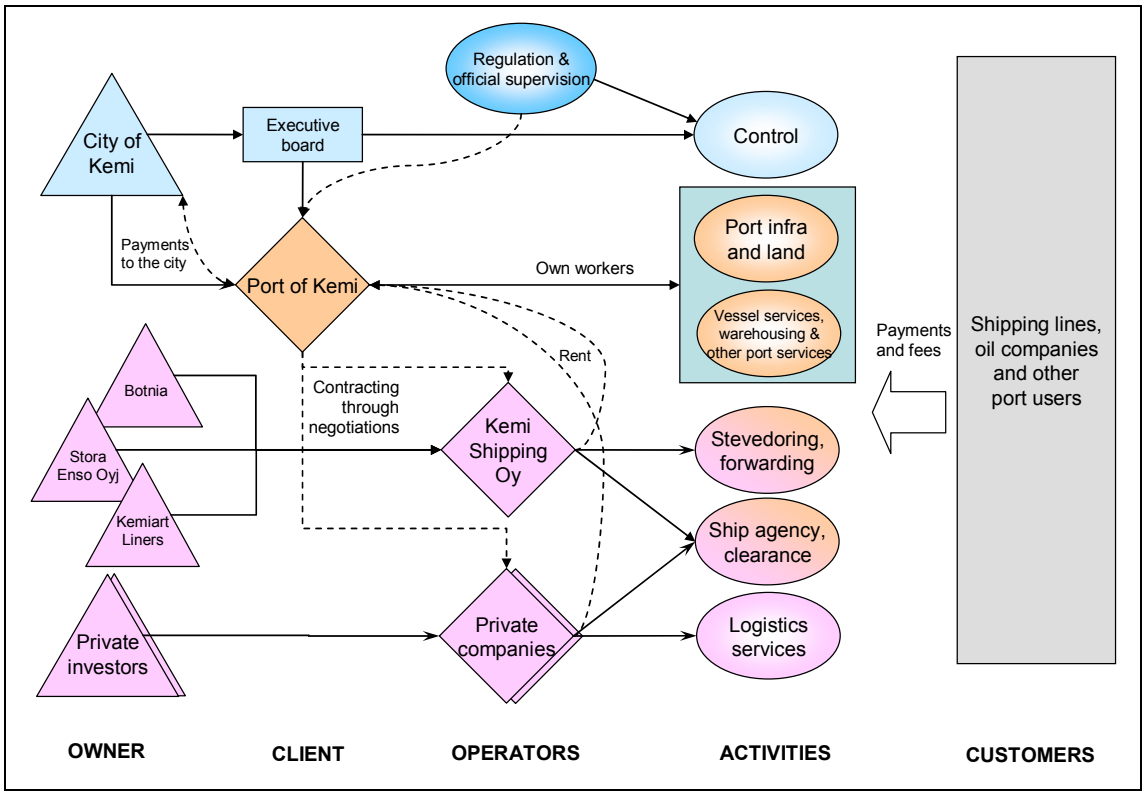

Figure 10. The ownership model of Port of Kemi.

The ownership model of Port of Kemi might be changing in the near future for two different reasons. Firstly, the new competition legislation concerning municipal enterprises set by European Union might force it to shift into a limited company (Ltd). Secondly, the mining projects in the region of Kolari-Pajala demand so extensive regeneration from port that private investor might be needed to finance new part of the port. The different options for change have recently been examined and most likely the port will shift into a municipal-owned company (Ltd.) fully owned by the city of Kemi.

The organization in port of Kemi is rather small. It operates under the guidance of the selected management board and the port director is responsible for the day-to-day operation of the port. Besides him, there are only a few people performing official duties.

The governance model used by the port of Kemi is very typical and widely used in other Finnish ports. This model is a variation from the port governance model called "Landlord port model" where port authority has a responsibility of economic exploitation, the long-term development of the land, and the maintenance of basic port infrastructure such as access roads, berths, and wharves. The private operating companies that lease from the port authority provide and maintain their own superstructure and purchase and install their own equipment. In the port of Kemi, private operator owns everything above ground level. (Pekuri 2009)

The consolidation of the harbour administration and operational entrepreneurship in the Ajos harbour is now closer than before and the customs office also locates at Ajos. In expansion also the amount of piers increased and the new harbour encompass better storage/intermediate storage facilities for goods and the open storage areas are also enlarged. Expansion was executed and financed in close co-operation with Kemi Shipping Oy. Stora Enso has directed all its production to Ajos after expansion and now all the paper are loaded into vessels, trucks and rail cars there. After expansion harbour in Veitsiluoto has only been used for import purposes. (Pekuri 2009)

The Port of Kemi has recently started to make environmental impact assessment for different development stages that are needed to serve needs of mining companies. Assessment will be carried out in co-operation with Northland Resources Ltd, Havator Group and Euroports Holding.

The financial situation of Port of Kemi is shown in Figure 11. The municipality has received compensation from the port for all the years under review, but the net result has been modest despite large volume of sales. It appears that major investments in three years under review have been mainly financed by cash flow from all the years in review, as the operating profits have remained relatively similar for all years.

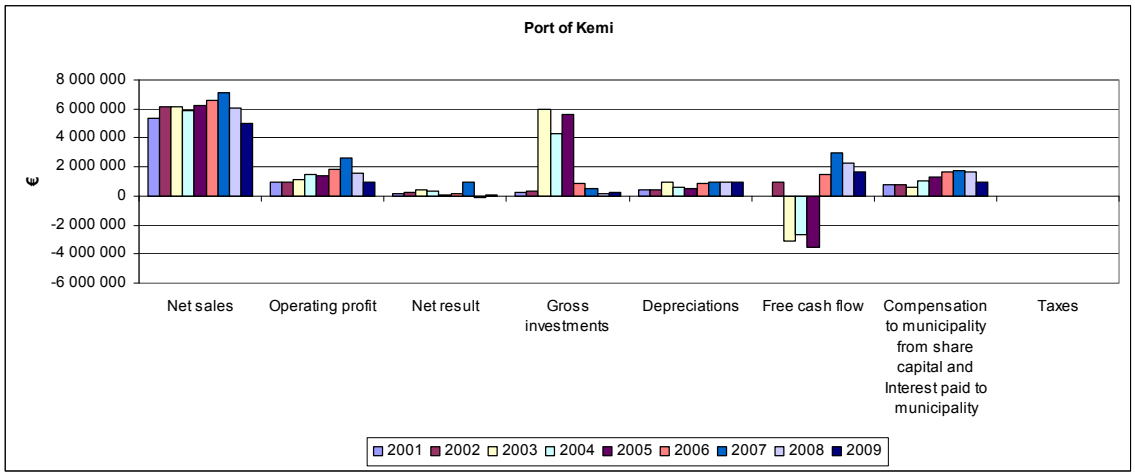

Figure 11. The basic financial data of Port of Kemi.

4.4.3 Port of Helsinki

The port of Helsinki is the main port for international trade and the busiest passenger port in Finland. The port is specialised in unitized cargo services for Finnish companies engaged in foreign trade. The strength of Helsinki's port lies in regular and frequent ship traffic combined with efficient stevedoring operations. Port services are provided by private companies and in passenger traffic also by the Port of Helsinki. The most important collaborations partners include shipping lines and harbour operators, haulage and forwarding companies as well as various authorities.

The port of Helsinki operates in the centre of city and in Vuosaari, each playing a special role in the overall port process. The Vuosaari Harbour is the centre of container and roro traffic, i.e. trucks and trailers. Passenger traffic is mostly concentrated in the South Harbour and the West Harbour.

Cargo traffic at the Port of Helsinki consists mainly of Finnish foreign trade imports and exports. The core of the cargo traffic consists of goods transported in containers, trailer trucks, trailers and similar units. The value of the cargo traffic at the Port of Helsinki represents approximately one-third of the value of the entire Finnish foreign trade and two-fifths of the Finnish foreign trade transported by sea.

Cargo arriving in the goods ports of Helsinki consists mainly of consumer durables and foodstuffs, as well as raw materials and semi-finished products for the industry. Export goods comprise products of forestry and metal industry, as well as foodstuffs, textile products and glassware. Vuosaari Harbour serves container and roro traffic. South Harbour and West Harbour serve roro traffic transported by passenger ships.

Vuosaari harbour is modern and efficient, with several competing ship-owners, stevedoring companies and other logistics service providers operating in open competition. The ship-owners can buy services based on competitive bidding, independent of the

Port of Helsinki. The Port of Helsinki operates as an administrator according to the landlord principle. It requires the Port of Helsinki to invest in the infrastructure, maintain the port area, and to administer and lease the land area to private operators. The private operators concentrate on the superstructure, such as cranes, terminals, machinery, cargo-handling equipment and information systems. Most of the Port of Helsinki crane operators have now become Finnsteve employees. The new Vuosaari Harbour will use an operations model in which the port operator owns the cranes. The ownership model of Port of Helsinki is presented in Figure 12.

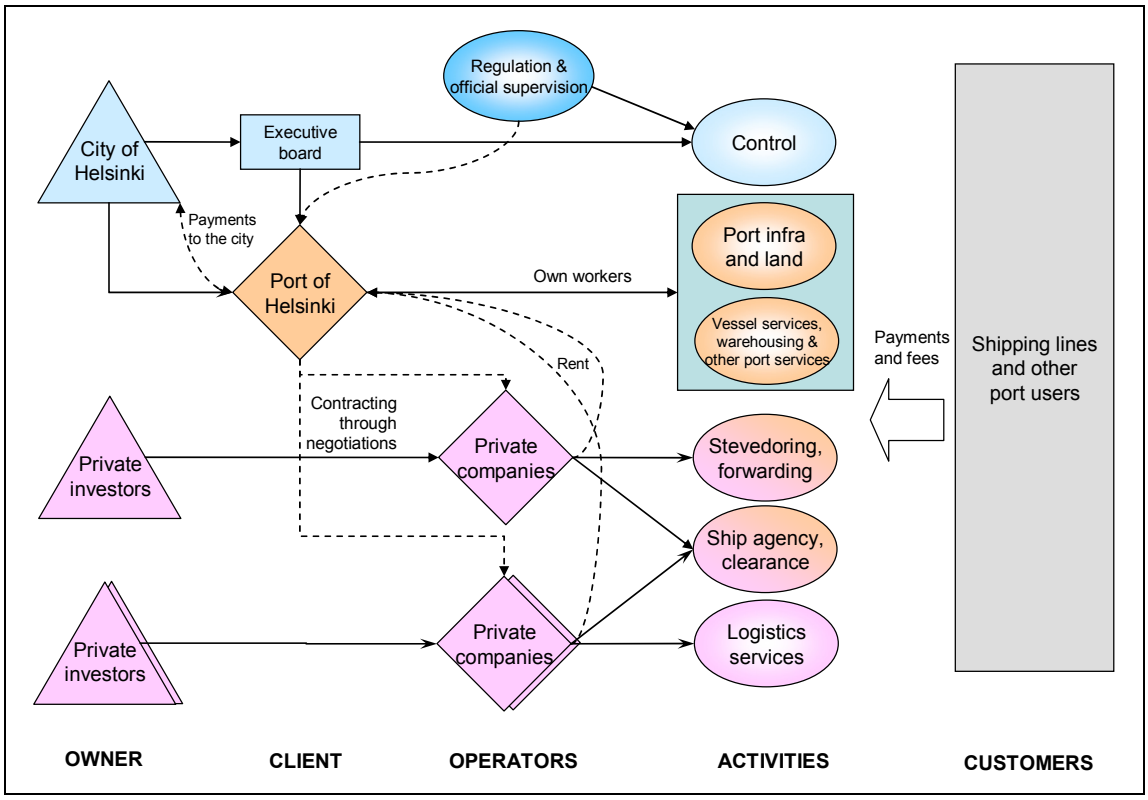

Figure 12. The ownership model of the Port of Helsinki.

The strength of the landlord model lies in the fact that the operator is entirely in control of the whole cargo handling process plus related logistics and services. The model will provide the operators with more flexible opportunities for developing cargo handling in a manner that will keep up with developments in competition and logistics for the benefit of the customers.

Vuosaari Harbour specializes in the handling of unitized cargo. A large number of operators and other service providers are stationed in the harbour. Competition keeps the quality of port operations high. Operators have their specific areas for cargo handling. There are two areas for thermo regulated reefer units, 400 spaces in total. The

arrangement of storage areas for empty containers has been developed together with operators.

Port of Helsinki has made a positive operating profit and net result for all the years under review, despite the large investments made to Vuosaari port (see Figure 13). Helsinki has received compensation from the municipality for all the years, which has affected the net result of the port. Investments have exceeded net sales over the Vuosaari port construction period, yet the net result has remained positive even during the heave investment period.

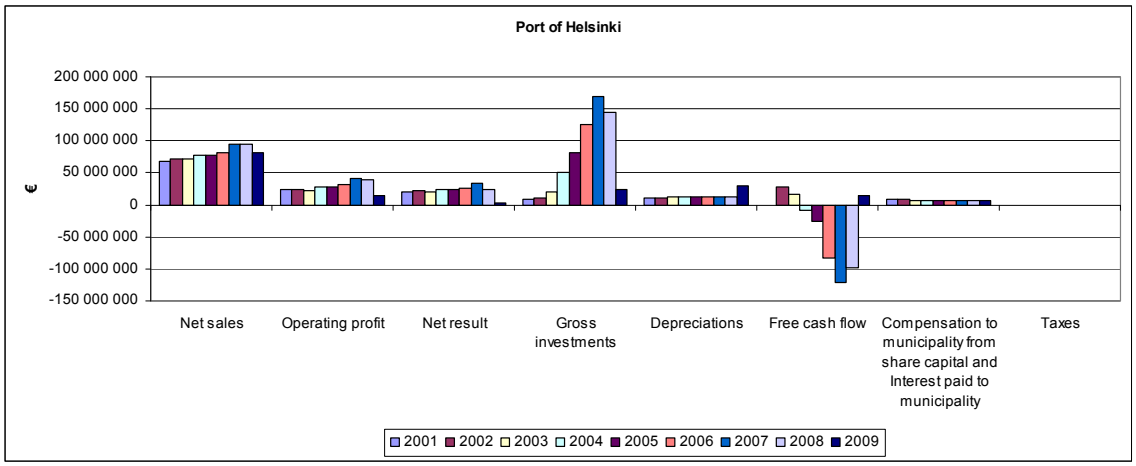

Figure 13. The basic financial data of Port of Helsinki.

4.4.4 Port of Turku

Turku is the second most important port for general and unitised cargo in Finland after Helsinki. It is also the only train ferry harbour in Finland, which in practice means that the whole of Finland is hinterland of the Port of Turku. Located in the most accessible part of the country, the modern and sheltered Port has the prerequisites to grow into a large distribution centre in the early years of a new millennium, serving all of Scandinavia, Northern Europe, the Baltic States and Russia. More than four million tonnes of cargo and over four million passengers pass through the Port of Turku annually.

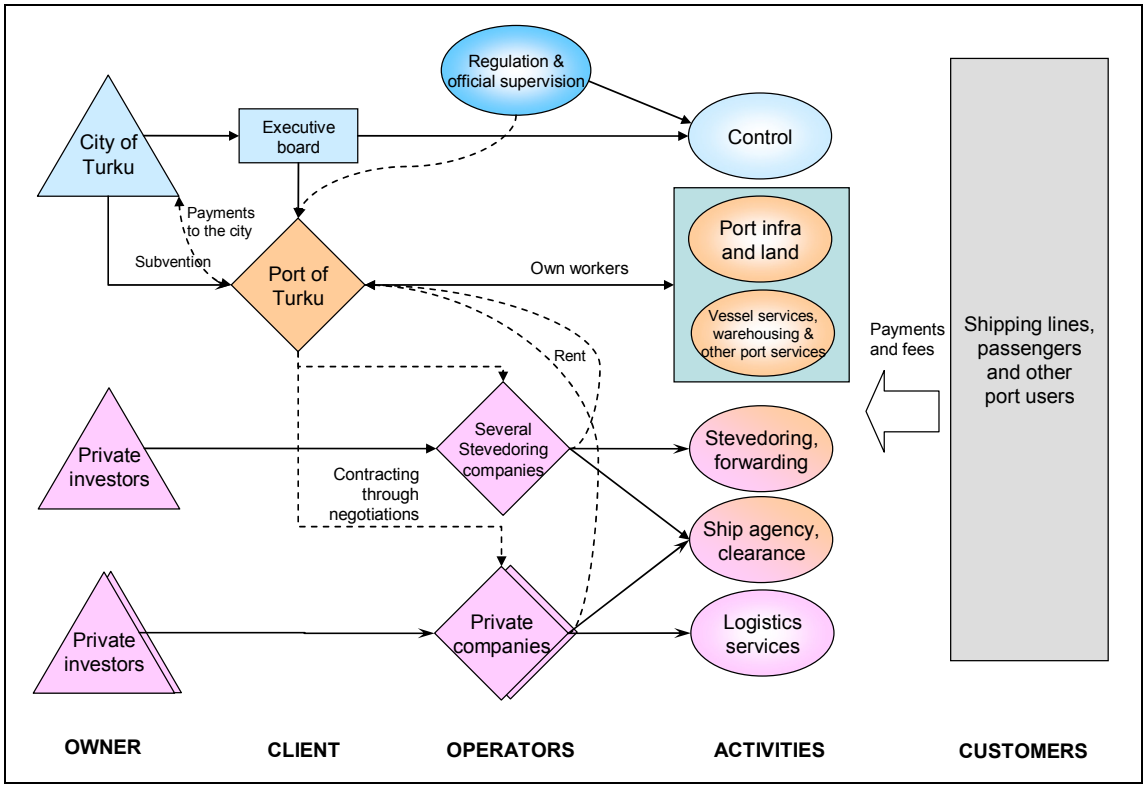

Figure 14. The ownership model of Port of Turku.

Port of Turku is a municipal enterprise fully owned by the city of Turku. The ownership model is presented above in Figure 14. The Port of Turku was founded on a natural trading post at the mouth of the River Aura. The birth and development of the port have always been essential elements of the evolution of the City of Turku. It has also laid the foundations for trading and international contacts.

The Port of Turku provides a multitude of services to its customers including:

- Vessel services (mooring, unmooring, water supply, harbour pilotage)
- Ice-breaker requests, alarm duty, schedule inquiries, VTS duty, weather reports and water level
- Harbour cranes services
- Pilotage
- Electricity supply for vessels
- Waste management.

Port of Turku has had a healthy volume of turnover, which has translated into high operating profits and a positive net result for all the years (see Figure 15). However, investments have been relatively modest over the period and compared to net sales. This is also the case when constrasted with other ports. Port of Turku applies a compensation

scheme where the municipality receives an agreed, fixed amount in transfers each year. This has reduced the net results accordingly.

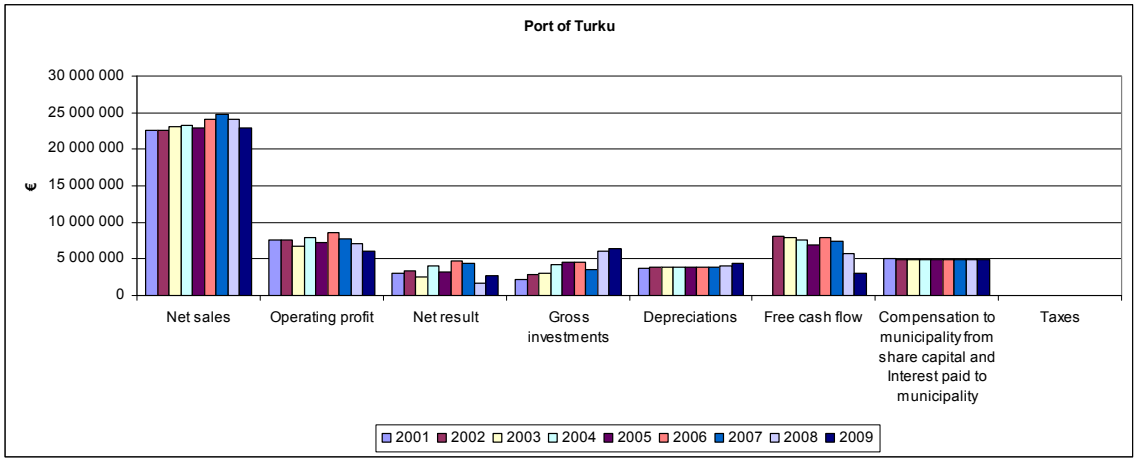

Figure 15. The basic financial data of Port of Turku.

4.4.5 Port of Kokkola

The Port of Kokkola is the largest of the four major ports located along the coast of Ostrobothnia. As a result of the largest investment ever the fairway leading into the Port of Kokkola now has a draft of 13 metres. Due to this improvement, Kokkola is one of Finland's three deep-water ports. Panamax size vessels can now safely enter the port fully loaded. Dry and liquid bulk cargoes, containers and general cargoes provided by both local and transit customers are handled in the port. Massive investments have also been made in the cargo handling equipment and the port installations, contributing to the increase of the cargo handling capacity from 3 million tons in the beginning of the 1990-ies to today's 7 million tons. The port can offer a wide range of both covered and open storage areas, and additional facilities are constantly built, whenever required. A total of 529 vessels called the port in 2001 to load or discharge metals, concentrates, talcum, chemicals, liquid bulk cargoes, zinc, sawn timber, general cargo and containers.

Railway lines connect Kokkola to the Murmansk area, the Kola Peninsula and further to the Komi Area and other far-away destinations in Western Siberia. The road and rail connections to other parts of Russia are also very good and competitive. In addition to the specialised dry bulk and sawn timber traffics, liner traffics link Kokkola to the UK (Immingham) and to the main ports of the European Continent (Hamburg, Rotterdam and Antwerp).

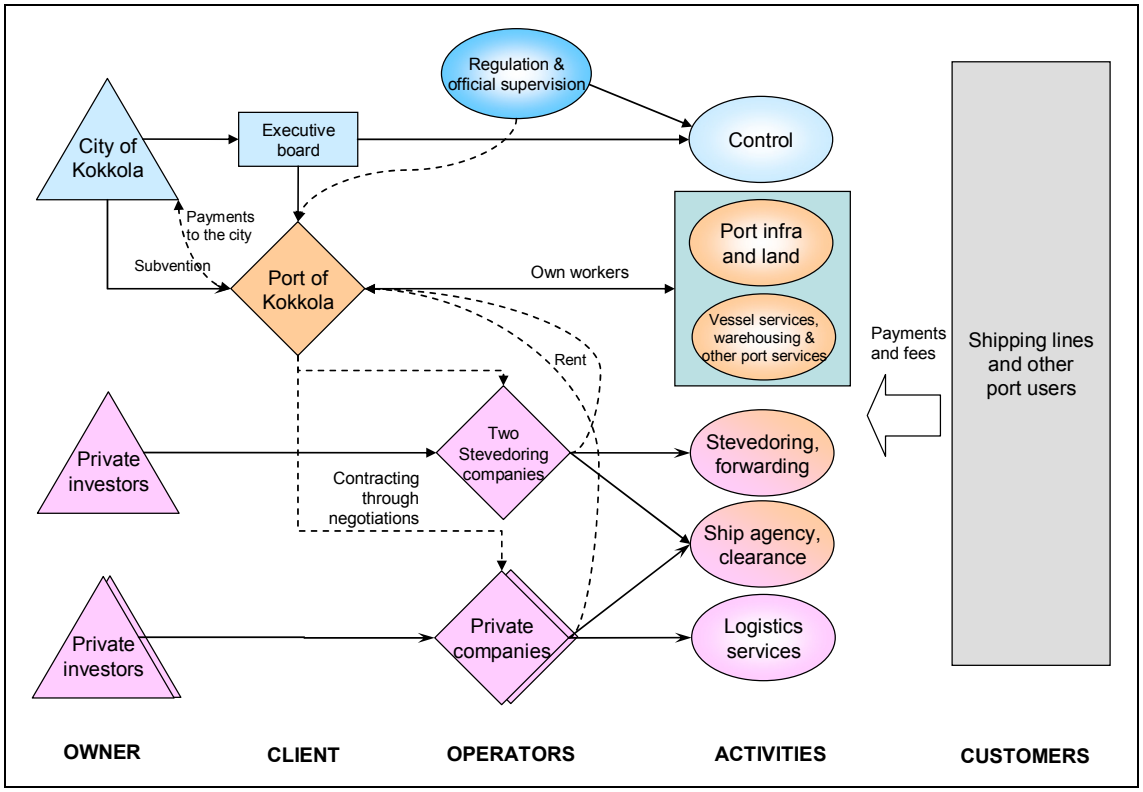

Figure 16. The ownership model of the Port of Kokkola.

The port is an indispensable link in the trade between East and West. It offers fast connections into Russia and to other parts of the world. In the port the cargoes for Russia are loaded directly into railway wagons that subsequently cross the border between Finland and Russia within ten hours.

Several large international companies have their industrial plants in the immediate neighbourhood of the port. Outokumpu Plc (metals), Kemira Chemicals Plc (chemicals and fertilizers) and OMG Chemicals Ltd, and several small and medium size industries have chosen Kokkola for their production plants.

The Port Authority runs the port as a local municipal enterprise (the ownership model of the port is described in Figure 16). Today the Port of Kokkola has commercial links to countries and places all over the world, and cargoes provided both by local customers and by the transit traffics pass through the port.

During the last five years the Port Authority has invested more than 45 million Euros in the improvement of the infrastructure of the Port. Additional funds are continuously allocated to new projects. Today the total covered warehouse capacity exceeds 70,000 m2. 50,000 m2 of this area has been built less than 10 years ago. The recently inaugurated 13 m deep access channel, the modern cargo handling equipment, and new warehouses, guarantee that the port can offer its customers a high quality service, as well as

assure the reliability of operations. Being a free trade zone where experience is combined with sound basic business practise and with close and efficient connections to the expanding markets in Russia, the Port of Kokkola and its customers have a realistic potential to successfully grow and develop together.

Core Activities:

- Professional and efficient handling of dry bulk: Conveyor systems from railway wagons into the warehouses and from the warehouse with loading conveyor systems into the vessel's hold.
- Multipurpose 40 ton cranes on rails.
- Quality handling of general cargo.
- All type of containers, break bulk and neobulk, sawn timber, project cargoes.
- Efficient handling of liquid bulk.
- Warehouses and terminals: A total of 70,000 m^2 of covered warehouse space.

Port of Kokkola has produced a steady and increasing volume of net sales over the period of analyses (see Figure 17). The port has also been able to provide the municipality a compensation that has varied little over the period, indicating that there is a model for agreed transfers between the port and the municipality. Fluctuations in gross investments have had an impact on the net result, but for all the years the net result has also remained positive.

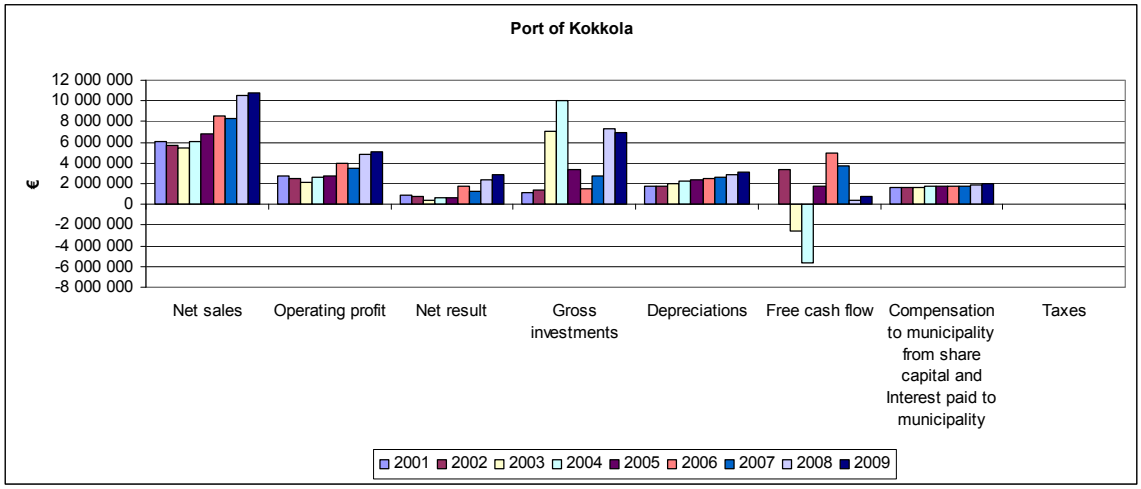

Figure 17. The basic financial data of Port of Kokkola.

4.4.6 Port of Vaasa

The port of Vaasa is a municipal enterprise owned entirely by the city of Vaasa. The ownership model of the port is presented below in Figure 18.

The port of Vaasa offers following services:

- Crane services
- Moorings
- Fresh water and electricity
- Ground lease
- Waste disposal
- Stevedoring services are offered by Blomberg-Stevedoring Oy.
- Forwarding services are offered by Backman-Trummer Oy and Oy Beweship Group Ab.
- Tug services are offered by Vaasan Hinaus Oy.

The passenger and freight traffic is served by a ship connection between Vaasa and Umeå. Shipping company is RG Line.

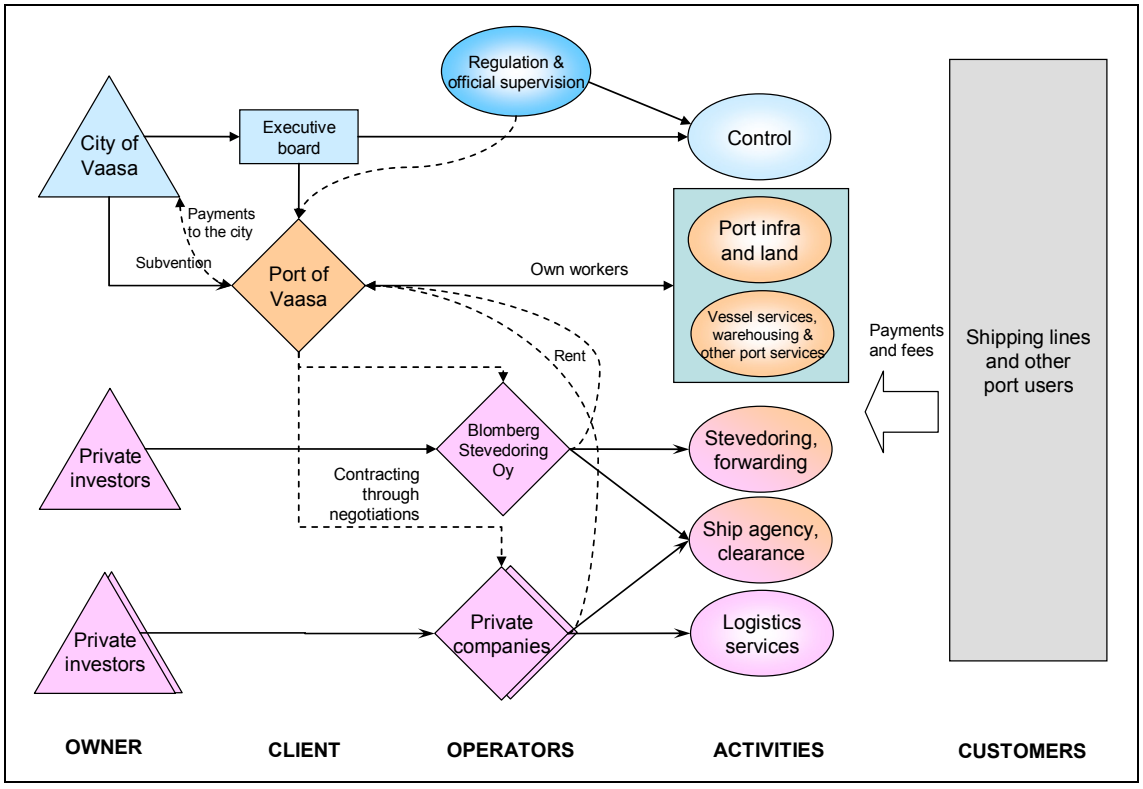

Figure 18. The ownership model of the Port of Vaasa.

Port of Vaasa has made a positive net result in most of the years, with exception of two years, where one has been the result of large gross investments. The free cash flow has also fluctuated from a large deficit in 2001 to positive results in other years. The compensation to municipality has remained at a relatively stable level, but decreased in the last two years significantly from the previous year's levels. See Figure 19 for the basic financial data of port of Vaasa.

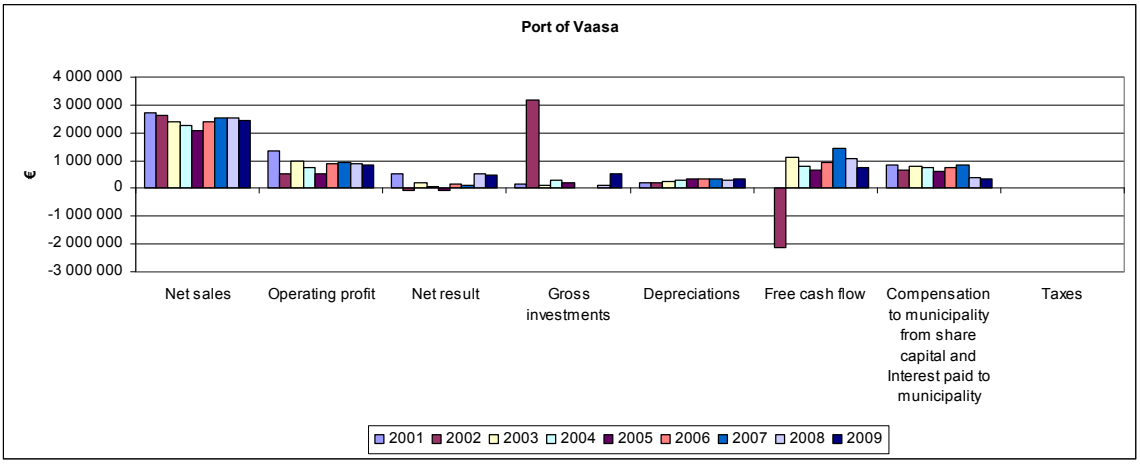

Figure 19. The basic financial data of Port of Vaasa.

4.4.7 Port of Hanko

The Port of Hanko is the southernmost port in Finland, offering connections to continental Europe, all over Finland and Russia. The Port of Hanko is specialised in paper exports and car imports. There has also been a considerable increase in the volumes of fresh produce imports. The ownership model of Port of Hanko is shown in Figure 20.

The Western Harbour is used for paper exports, car imports as well as container and trailer traffic. Approximately 1,350 vessels visit the Western Harbour every year. The Outer Harbour is mainly used for car imports and unloading. Some 250 vessels visit the Outer Harbour every year.

Unloading and loading of cargo:

- Mobile crane, capacity 100 tonnes
- Multipurpose crane, capacity 45 tonnes
- Movable crane, capacity 53 tonnes (Hangö Stevedoring)
- Movable reach stacker, capacity 40 tonnes
- Forklift trucks, capacities 10–40 tonnes (Hangö Stevedoring and Stevena)
- Tugmasters (Hangö Stevedoring and Stevena)
- Other machinery (Hangö Stevedoring and Stevena Oy).

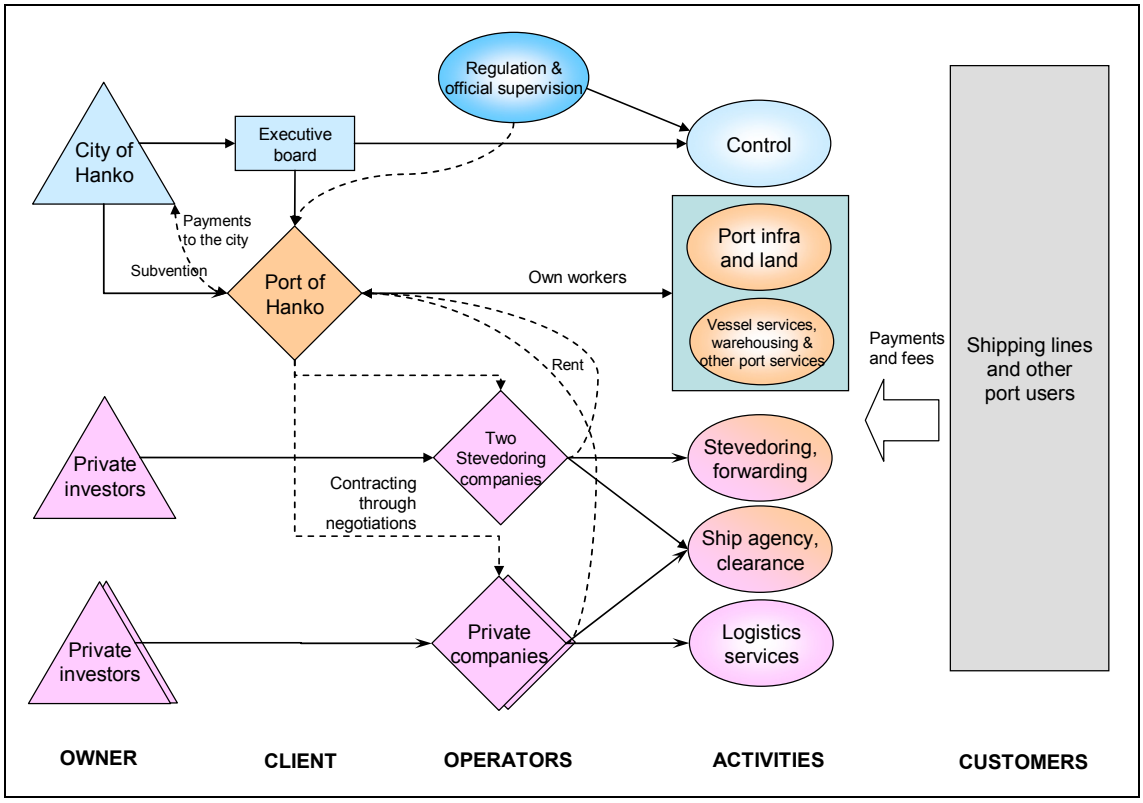

Figure 20. The ownership model of the Port of Hanko.

Port of Hanko has out-performed other ports over the period of analyses in terms of operating profit and net result, with the exception of the last year 2009. Since the imports of cars fell significantly in 2009 the result was also worse than on previous years. However, the compensation to municipality has remained the same for all years, as Hanko has opted for flat transfer rate. No major investments have taken place over the period except in 2008. The financial data for Port of Hanko is presented in Figure 21.

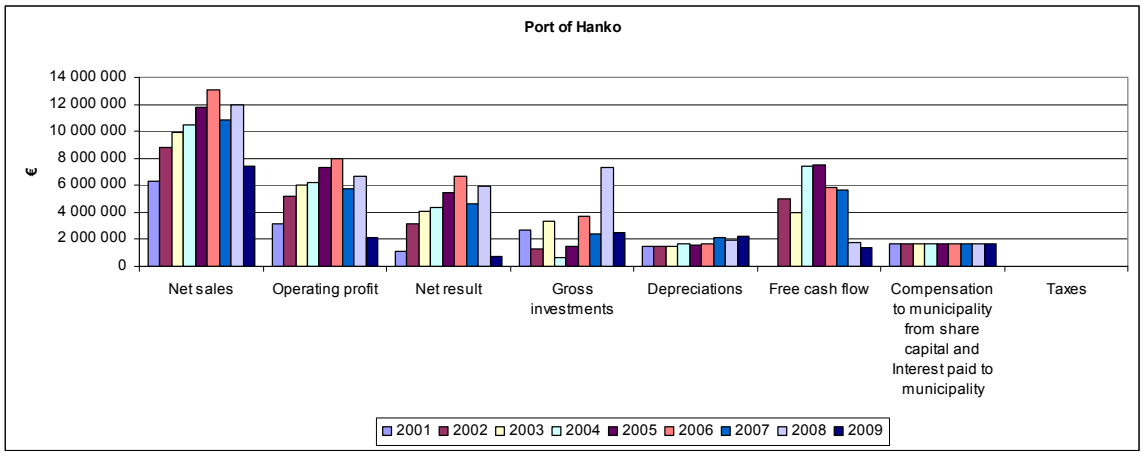

Figure 21. The basic financial data of Port of Hanko.

4.4.8 Port of Pori

The Port of Pori is a municipal enterprise owned by the City of Pori (see Figure 22). The port is the 2nd largest commercial bulk port in Finland (2007) due to its great variety of dry and liquid bulk cargoes. Other major cargo types include containers, high & heavy project cargo and sawn goods.

The quay at the Tahkoluoto Deepharbour is one of the deepest in Finland (15.3 m). Therefore all vessels sailing at the Baltic Sea can be served at the Port of Pori.

Port of Pori consists of two different harbours, Mäntyluoto and Tahkoluoto. It is one of the few Finnish ports with flexible expansion possibilities.

Connections to the hinterland are uncongested through the highways and railway that lead to both harbours. Also, Finland's strongest harbour crane Masa (max. 200 tons) is located in Mäntyluoto harbour.

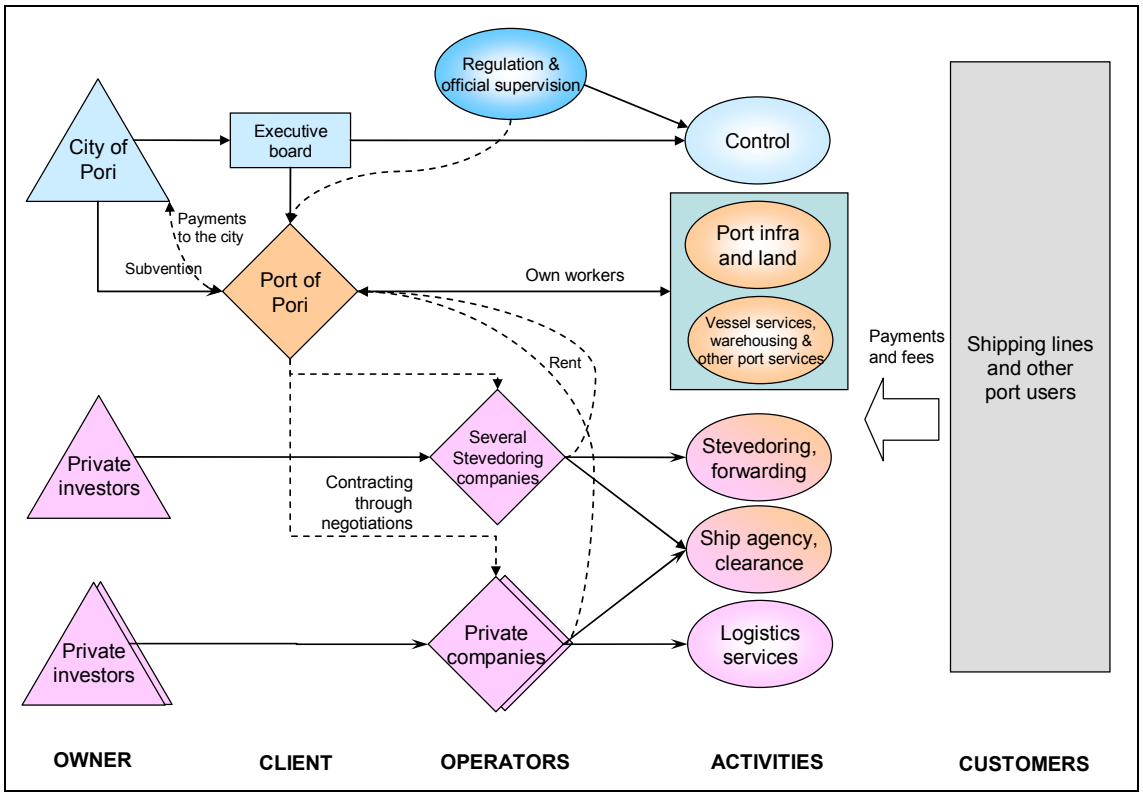

Figure 22. The ownership model of the Port of Pori.

Port of Pori has had strong net sales performance but it has been offset by relatively modest net result and compensation to City of Port has only been paid in 3 years. Some investments have taken place, but they do not fully explain the fluctuations in cash flow. The basic financial data of Port of Pori is presented in Figure 23.

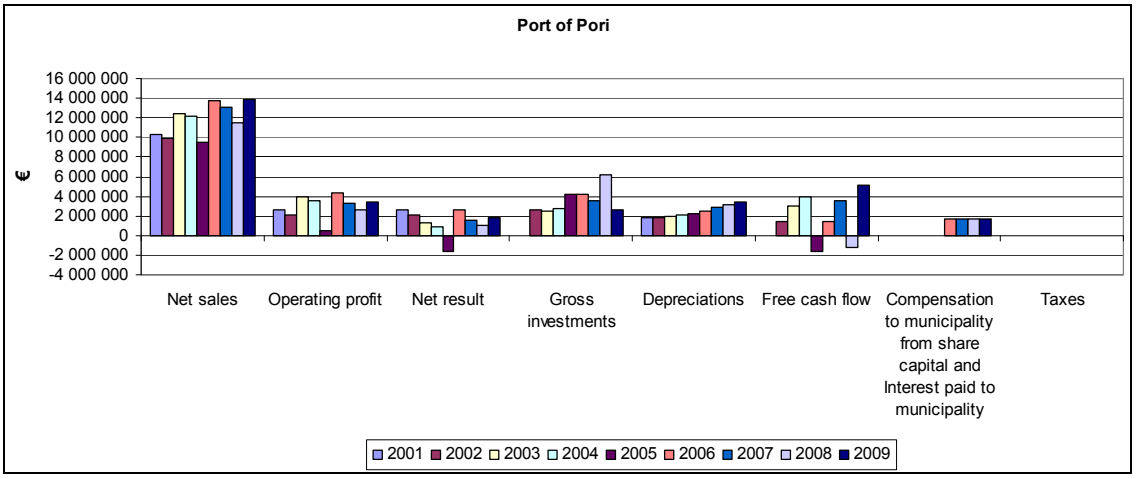

Figure 23. The basic financial data of Port of Pori.

4.4.9 Port of Rauma

The Port of Rauma is a public enterprise (MOE) owned by the City of Rauma (see the ownership model in Figure 24). In 2009, a total of 5.0 million tons of cargo was handled in the Port of Rauma. General cargo accounted for 3.4 million tons, dry bulk cargo for 1.3 million tons and liquids for 0.3 million tons. An export volume of ca. 2.4 million tons made paper and cardboard the largest items. The number of container shipments increased to 143,269 units (TEU), or 16.8% lower than in the record year of 2008. About one fifth of the total volume shipped through the Port loaded in containers. The customer base of the port consisted primarily of industries, forwarding companies and shipping lines.

The Port of Rauma has:

- 115 hectares (1 150 000 m²) of field space
- 275 000 m² of covered facilities for general cargo
- 30 000 m² of heated warehouse space
- 230 000 m³ warehouse space for bulk cargos
- 175 000 tons of silo capacity
- 560 600 m³ of chemical and oil tank space.

The most important activities of the port include construction and maintenance of port infrastructure, renting of land and water areas, goods handling with cranes, traffic control in the port, regulatory duties and maintenance of port security. Port of Rauma is Finland's largest paper port. Ro-Ro and Sto-Ro traffic is concentrated in the Hakuni harbour part. Every year some 3 million tons of paper and cardboard are shipped through Hakuni, mainly to Europe and the United States.

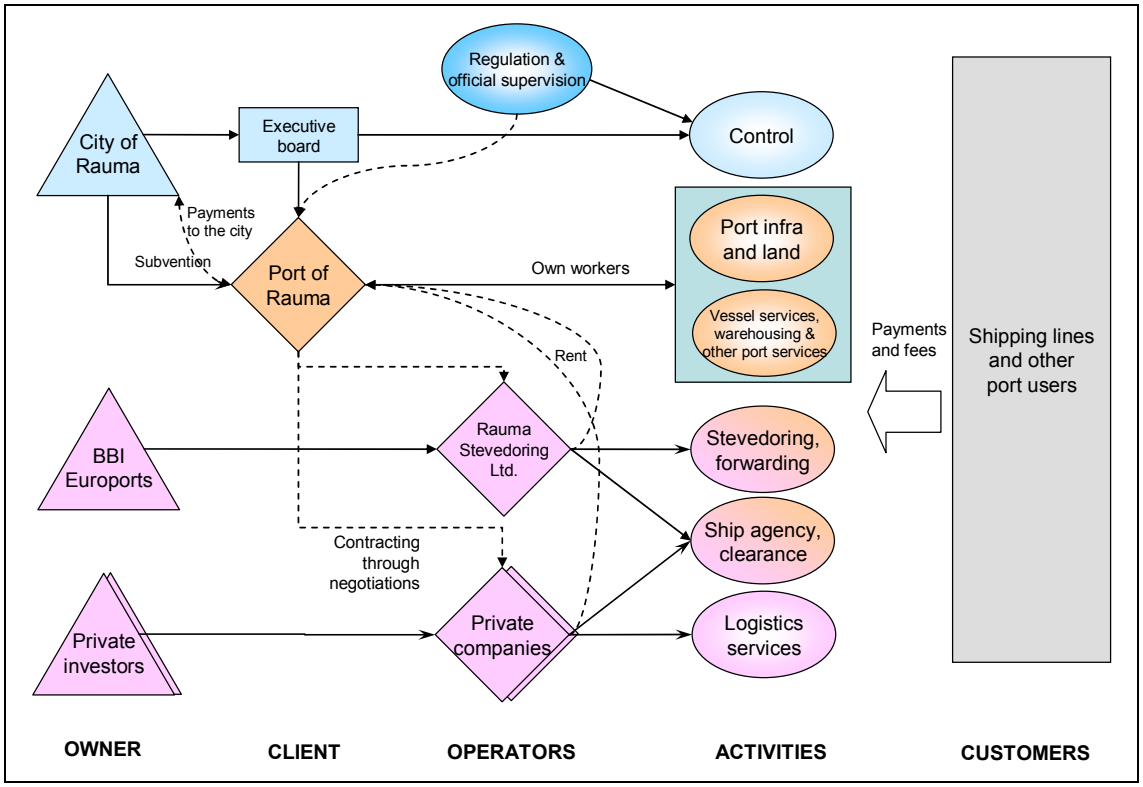

Figure 24. The ownership model of the Port of Rauma.

Port of Rauma has had relatively good financial performance despite some investments done over the period. Municipality has received a fixed compensation for each year. Fluctuations in net sales have directed impacted both the operating profit and the net result (see Figure 25 for basic financial data).

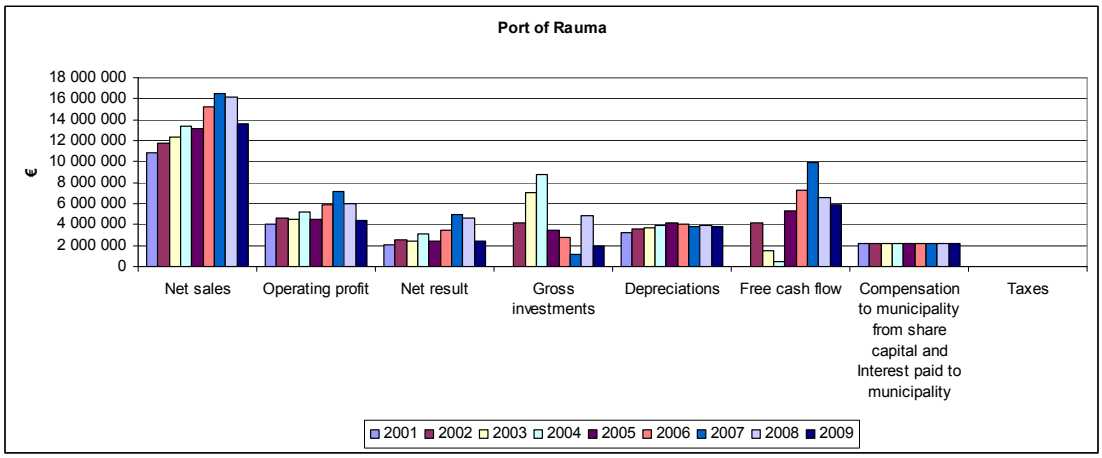

Figure 25. The basic financial data of Port of Rauma.

4.4.10 Port of Pietarsaari

The port of Pietarsaari is formed of 6 quays with the total length of 1 030 meters. Three of these quays are designed for special purposes whose utilisation other than planned are debatable (cement and passenger quay) or otherwise complicates other port operation (liquid discharge). For practical reasons cargo handling is concentrated mainly on Laukko and Buskö quays. The ownership model of Port of Pietarsaari is presented in Figure 26.

Laukko quay is the newest and deepest. The quay is located on farthest North of the port area. Laukko is 500 meters long and has draft of 9 meters. The draft of Buskö quay is 7.4 meters and length of 160 meters. The base of the quay is equipped with stern port ramp. South quay is 265 meters long with the draft of 7.4 meters. South quay is the oldest quay of the port. Passenger quay is 120 meters long with the draft of 6.4 meters. Pargas quay is also known as Cement quay. The quay is typical dry bulk quay equipped with bulk carriage. The draft of the quay is 5.2 meters.

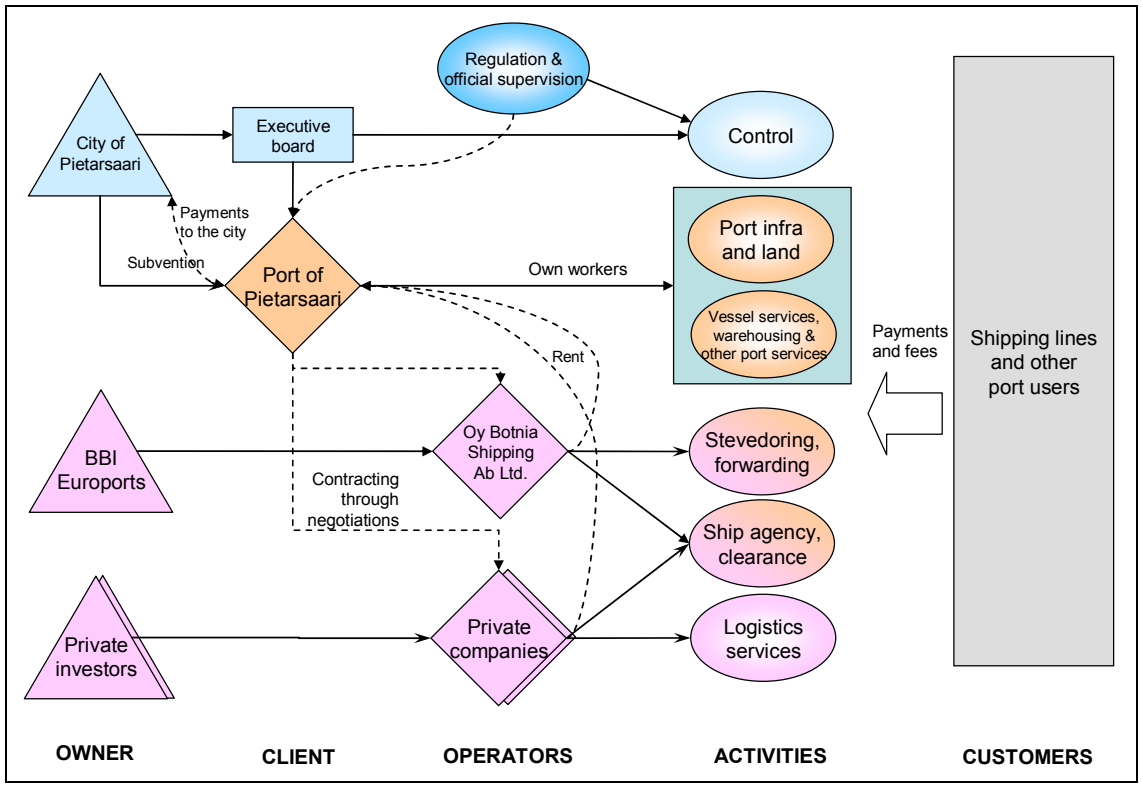

Figure 26. The ownership model of Port of Pietarsaari.

For Port of Pietarsaari, no financial data were available for analyses.

4.4.11 Port of Uusikaupunki

The port of Uusikaupunki is a municipal enterprise owned entirely by the city of Uusikaupunki. The ownership model of the port is presented below in Figure 27.

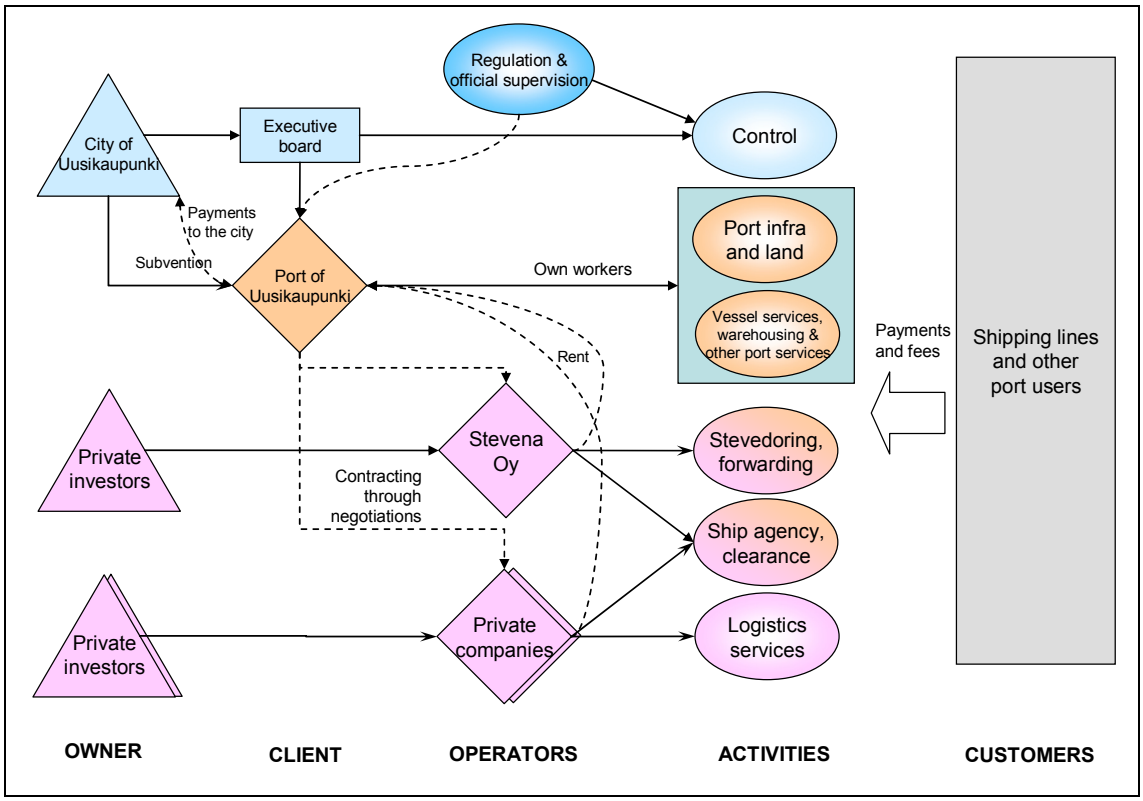

Figure 27. The ownership model of the Port of Uusikaupunki.

For Port of Uusikaupunki, no financial data were available for analyses.

4.5 Municipality-owned company (MOC)

4.5.1 Port of Kotka

The port of Kotka is the second biggest export port in Finland. Industry is a strong line of business in the region, especially the forest and metal industries. In addition to logistics, trade and service branches are developing positively. The main traffic consists of timber, paper, metal and stone; nowadays also more and more cars, which are an important part of transit traffic. The port of Kotka is the biggest transit port in Finland. It has traditionally been the foremost export port in Finland. Today, it has evolved into a full-service logistics hub, specialised in serving the global logistics needs of Finnish and Russian foreign trade. (Sundberg 2009)

In recent years, the supply of value-added logistics services has been in focus at the Port of Kotka. There are at present almost 100 enterprises engaged in port-related operations working in conjunction with the Port of Kotka. More and more of these companies are concentrating on value-added logistics services. Port operations provide employment for almost 6,000 people in southern Kymenlaakso when also including subcontractors and port-related industries. Municipalities collect almost 40 million euros per year in local and corporation taxes.

Port of Kotka Ltd. is a municipality-owned company (MOC) fully owned by the city of Kotka (see Figure 28). The company is part of the City of Kotka Group in accordance with the Finnish Local Government Act. The city of Kotka and Port of Kotka Ltd have strictly bounded relationship with each other. The port operates on its own according to principles of business and administration as commercial business. It operates under the Limited-liability Companies Act. The port does not receive municipal financial support from the city. As the owner, the city only intervenes with the most essential strategic decisions.

Port of Kotka operates solely within income financing received from the port users, port operators and other customers. Port users pay fees for port usage and provided services according to the listed prices, which are verified annually by the board of directors. The port area is owned by the city of Kotka and is leased to the port. The port of Kotka is responsible for the infrastructure (or superstructure) meaning the entire harbour, piers, roads, buildings and railways. Responsibilities include control, maintenance, repair and construction of new targets. The port operators, logistics companies and other enterprises providing services in the port area must also pay rent for the use of land area and infrastructure. The city does not subsidize the port. If loan is needed, the port has to get its financing market-based. In 2008, the investments by Port of Kotka Ltd totalled 18.5 million Euros. On top of this, there are the considerable investments made by enterprises operating at the port.

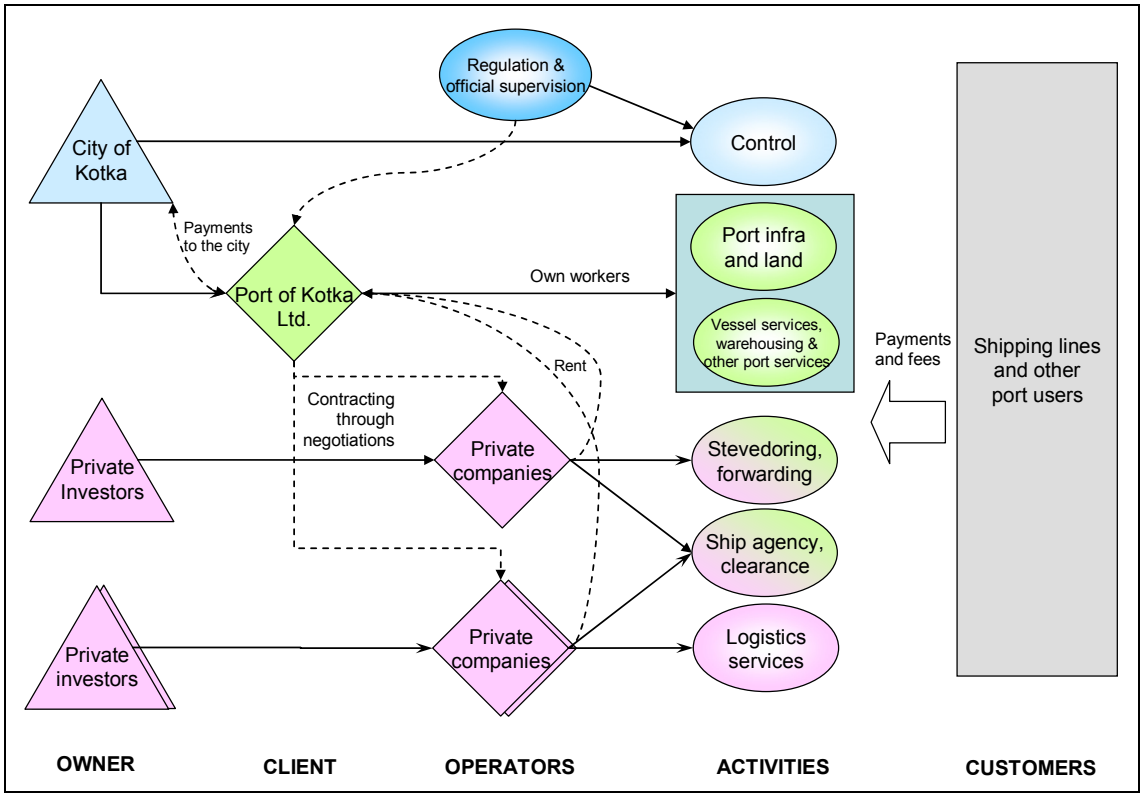

Figure 28. The ownership model of the Port of Kotka.

An organisational change was carried out in Port of Kotka Ltd in 2008, as a result of which traffic services now constitute a department of their own. This change intends to serve the customers of the Port of Kotka and the greater traffic volumes. The Traffic Department is in charge of the daily practical work in port traffic: vessel and land traffic, cranes, customer service, security, occupational safety and area monitoring, and for planning and developing these functions. A change in vessel traffic requires from the Port of Kotka constant development of its own resources in order to fulfil the needs of customers. The development of the Traffic Department focused on crane and personnel resources.

Port of Kotka started its operation as a municipal-owned company (Limited-liability Company) in the beginning of the year 2000. It was the first port in Finland that started its operation as a MOC. Today, there are only two MOC-ports in Finland, Kotka and Hamina. Before 1999 the port was part of city's organization as a budget unit operating much with the same principles that of a municipal-owned enterprise. The basic financial data for the Port of Kotka is presented in Figure 29.

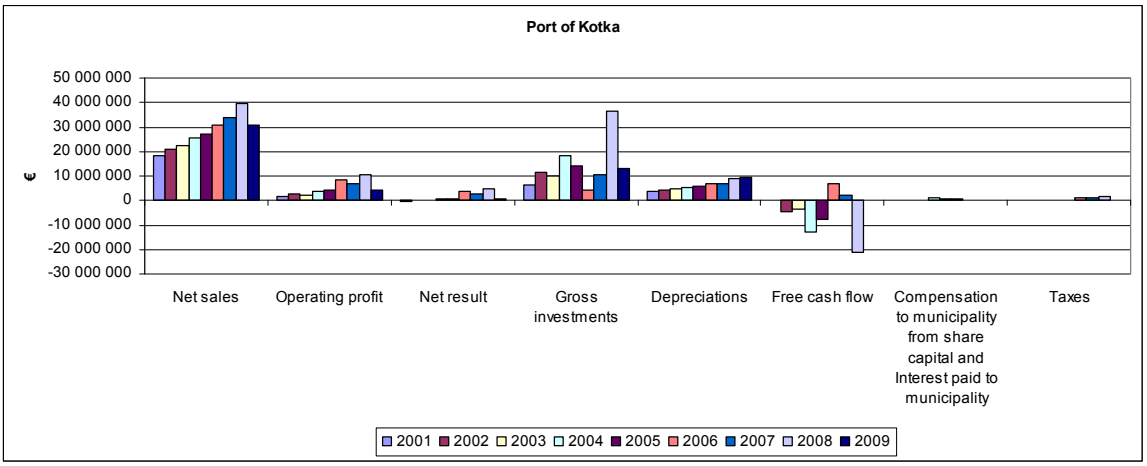

Figure 29. The basic financial data of Port of Kotka.

4.5.2 Port of Hamina

The Port of Hamina is the easternmost port in the Finland. The full-service logistics centre operates only 35 kilometres from the Russian border. The port boasts regular liner services to various locations in Europe, while also having excellent road and railway connections. Due to its location, the Port of Hamina has developed an expertise in transit traffic to the markets of Russia and the CIS countries.

The port features one of the most efficient container terminals in the Baltic countries and a liquid terminal specializing in the storage and handling of liquids, which is frequently used by various companies operating in the oil industry. The forest industry is the port's leading customer by volume. The Port of Hamina also specialises in various types of handling services and the storage of liquid bulk. The liquid bulk port with its railway terminal is the third largest in Finland and home to several oil companies.

Port of Hamina Ltd., established in 2001, is the port authority for the Port of Hamina. The share capital is owned entirely by the town of Hamina. Port of Hamina Ltd., for its part, owns the stevedoring enterprise HMT Ltd and the business operations of Hamina Port Terminals Oy and Oy Haminan Satamahuoltola (see Figure 30).

The Port of Hamina is Finland's fifth largest port, handling some five million tonnes of cargo annually. The logistics centre operates only 35 kilometres from the Russian border, two days from the EU's core area and about five hours by sea from St. Petersburg. Hamina has regular scheduled service to major European ports, America and Russia.

The Port of Hamina is home to seventy logistics companies with a total of about two thousand employees.

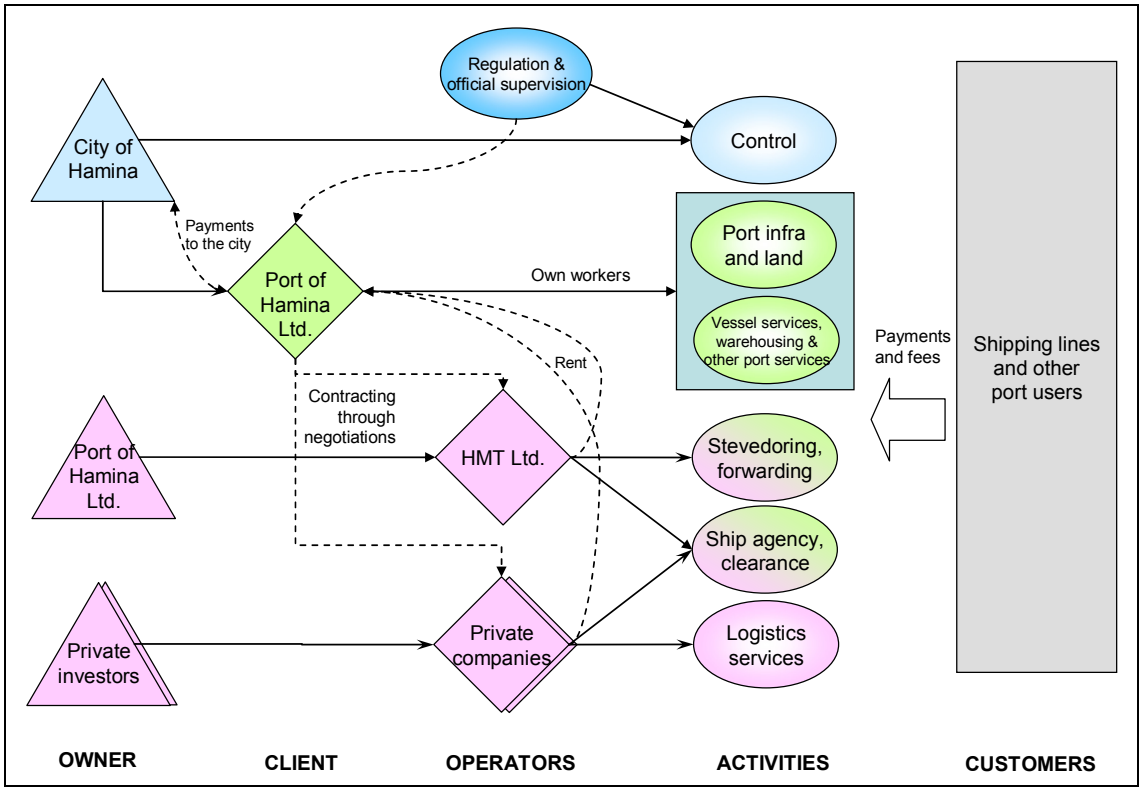

Figure 30. The ownership model of the Port of Hamina.

Port of Hamina has been one of the ports enjoying an increasing volume of net sales over the period. As it operates under the company structure, it has not made any compensation transfers to the municipality of Hamina. However, its net result and operating profit are surprisingly small compared to net sales and relatively modest depreciations, which could mean that the company has accumulated some extra reserves over the period. See the basic financial data of the Port of Hamina in Figure 31.

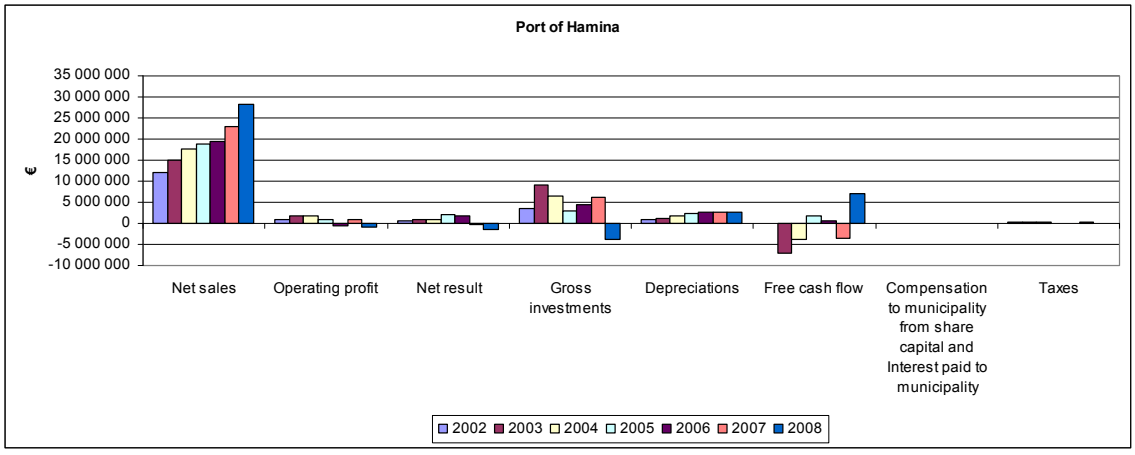

Figure 31. The basic financial data of Port of Hamina.

4.6 Private ports

4.6.1 Sköldvik Neste Oil

The Port of Sköldvik in Porvoo is the main port for petroleum product transhipments in Finland. It is also the biggest port in Finland when measured in tonnes. The Port of Sköldvik is part of the Neste Oil Ltd Porvoo refinery. In Porvoo, the refinery Neste oil produces about 150 different oil products and constituents, main products being fuels and raw material for lubricants. The capacity of the refinery is approximately 11 million tons of crude oil annually. The Porvoo refinery also produces bio diesel, which is made from vegetable oils and animal fats. The production capacity of bio diesel is 170 000 tons at the moment, but in 2009 a new bio diesel production plant of the same size will be opened. A part of the production goes to the domestic markets and a part is exported mainly to Europe and North America. Besides its own production, the port also serves other companies in the industrial area of Sköldvik: Borealis polymers Ltd and Styrochem Finland Ltd. Besides crude oil and oil products, also small amounts of other industrial feed materials, gases and chemicals are transported via Sköldvik. (Kuronen et al. 2008) The ownership model of Sköldvik Neste Oil is presented in Figure 32.

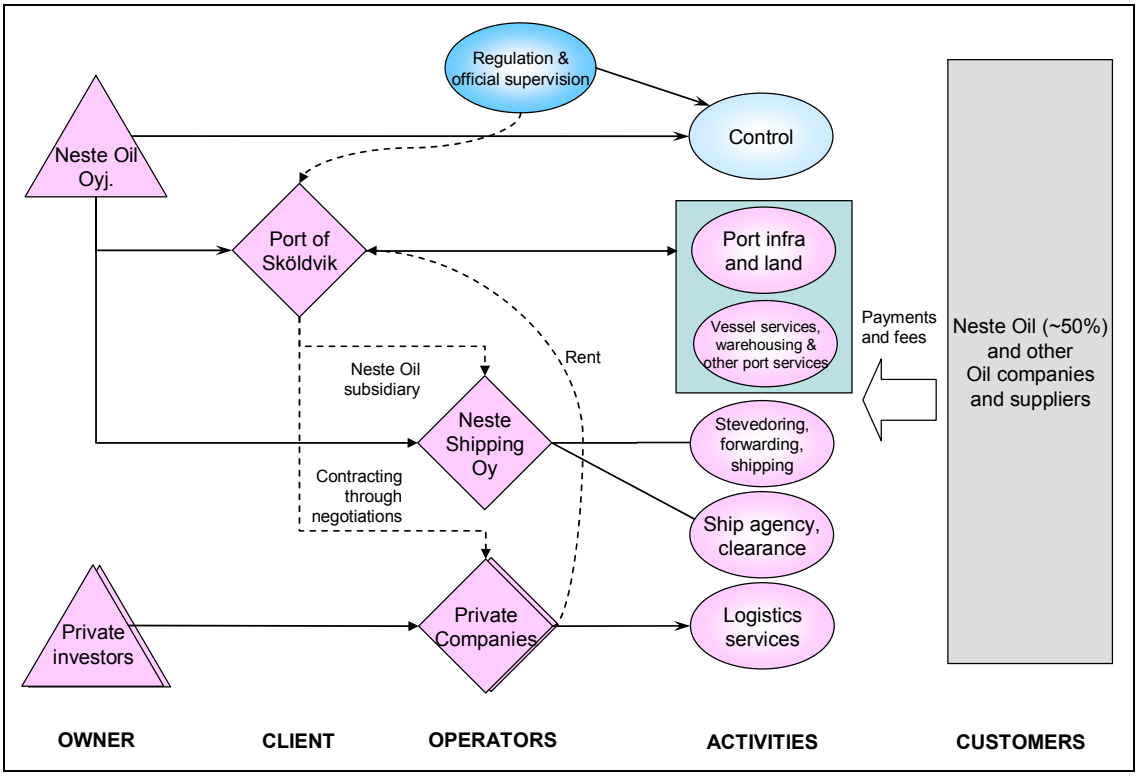

Figure 32. The ownership model of Port of Sköldvik.

For Sköldvik Neste Oil, no financial data were available for analyses.

4.6.2 Inkoo Shipping

The Port of Inkoo is a privately-owned public port. The Port Company is called Inkoo Shipping Ltd. and it is owned by industrial companies. The Port tranships dry bulk, for instance coal, crushed stone and limestone. The traffic is import-oriented. Next to the Inkoo Port is also a berth of the Fortum power plant. In recent years, the port has expanded its storages and plans to build a new dock have been made. (Kuronen et al. 2008) The ownership model of Inkoo Shipping is presented in Figure 33.

The annual traffic to the port is approx one million tons. The port's whole traffic is tramp shipments; there is no liner traffic into the port. The port is specialized in handling and storing of dry bulk materials. The ports competitiveness is based on flexible handling and storing possibilities, long experience in handling of bulk materials and the port's geographical location together with good connections by sea and road.

The company has its own stevedoring department, which offers vessel and cargo handling services at the port of Inkoo, and its own clearance and forwarding departments at Inkoo and Parainen offering services for vessel in these ports and other ports in the near distance. The port offers services for vessels. In addition to the port's own services there are many specialized companies in the neighbourhood offering repair and maintenance services. The port is specialized in handling of different type of dry bulk materials, and is the biggest port in Finland handling different raw minerals and mineral aggregates.

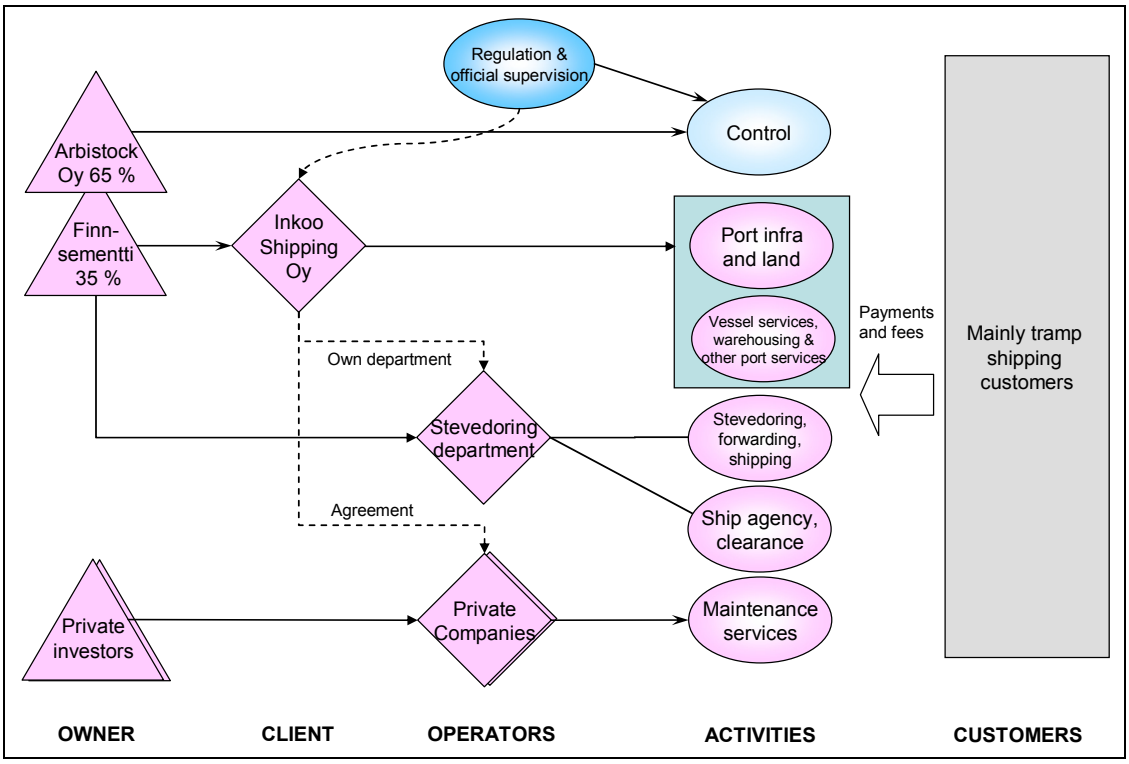

Figure 33. The ownership model of Inkoo Shipping.

Inkoo Shipping has produced a positive operating profit and net result for the period of analysis. The profit compared to net sales has been relatively modest, especially since there have not been major investments over the period. As Inkoo Shipping is a private port, no compensation has been paid to the municipality (see Figure 34).

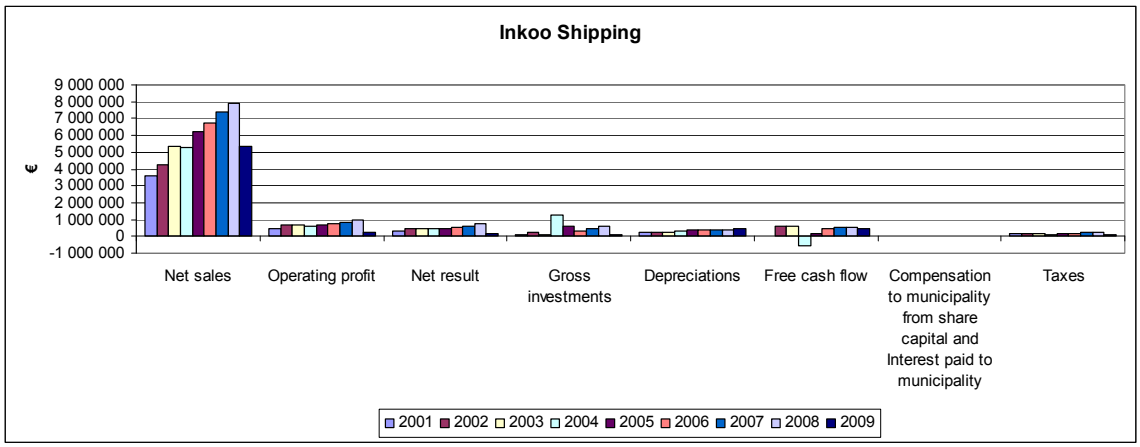

Figure 34. The basic financial data of Inkoo Shipping.

5. Port financial statement analysis

5.1 Introduction

This Chapter focuses on the financial analysis of the ports studied during the project. The tools used are same as those used for analysing listed companies in the stock market.

The analysis of financial performance shows that there are some interesting features in the sample entities. The first one is that there is much variance in the overall performance between the entities, and even within an industry or within an ownership and governance structure. This means that it is extremely difficult on the basis of a small sample to draw broader conclusions regarding the industry as a whole. On the other hand, the fact that the business entities are so heterogeneous is interesting in itself, indicating that any financial investment decisions have to be founded on a thorough analysis similar to those of listed companies. It should be also noted that the analyses carried out are backward-looking, and although not providing predictions of future value of the company, as history does not guarantee future performance of the business entity, the analyses provide some guidance about possible, even likely, future development path.

5.2 Financial analysis indicators

5.2.1 The income statement

The analysis in this work follows the basic methodology used in Finland to analyse the companies listed in the stock exchange. This Section of the report presents the basic formulas used in the analyses.

Adjusted income statement
Net sales (turnover)
+ Other operating income
= TOTAL OPERATING INCOME
- Materials and supplies used
- Outsourced services
- Personnel expenses
- Adjustment to entrepreneur's salary
- Other operating expenses
+/- Increase/Decrease in finished goods and work-in-progress inventories
= OPERATING MARGIN (EBITDA)
- Depreciation according to plan
- Reductions in value of fixed and other non-current assets
- Exceptional reductions in value of current assets
= OPERATING RESULT (EBIT)
+ Income on shares/similar rights of ownership and other investments
+ Other interest and financial income
- Interest and other financial expenses
+/- Foreign exchange gains/losses
- Reductions in value of investments in fixed and other non-current and current assets
- Direct taxes
= NET RESULT
+ Extraordinary income
- Extraordinary expenses
= TOTAL RESULT
-/+ Increase/Decrease in depreciation difference
-/+ Increase/Decrease in voluntary provisions
+ Adjustment to entrepreneur's salary
+/- Changes in market value
+/- Other adjustments to profit
= RESULT FOR THE FISCAL PERIOD

Next sections introduce the various indicators calculated for the ports for which data were available from the income statement and balance sheet data.

5.2.2 Free cash flow, FCF

Free cash flow represents the amount of cash that a company has left over after it has paid all of its expenses, including investments repayments and depreciation according to plan. Free cash flow is important because it allows a company to pursue opportunities that enhance shareholder value. The presence of free cash flow indicates that a company has cash to expand, develop new products, buy back stock, pay dividends, or reduce its debt. High or rising free cash flow is often a sign of a healthy company that is thriving in its current environment.

Equation 1. FCF.

Operating profit (loss)
+ Shares/Similar rights of ownership in associated companies
- Operating taxes
- Tax effect of financial expenses[2]
+ Tax effect of financial income[3]
= Operating cash flow
+ Depreciation
= Gross cash flow
- Change in working capital[4]
- Gross investments[5]
= Free operating cash flow
+/- Other expenses (after taxes)
= Free cash flow

5.2.3 Return on capital

Return on assets, ROA

ROA measures how profitable a company is relative to its total assets. The ROA Figure gives investors an idea of how effectively the company is converting the money it has to invest into net income. The higher the ROA number, the better, because the company is earning more money on less investment.

Equation 2. ROA.

$$\mathbf{ROA} = \frac{\text{Net result} + \text{Financial expenses} + \text{Taxes (12 mths)}}{\text{Average adjusted balance sheet total}} \times 100,$$

where

Financial expenses = Interest and other financial expenses + Foreign exchange losses.

The ROA compares the operating result with the total capital that is used in the business operations. The ROA is a profitability measure which is not affected by either the company's tax policy or the tax characteristics of the corporate form of the business. As shown in the adjusted income statement, ROA does not take taxes paid into consideration.

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[2] Tax effect of financial expenses = Financial expenses multiplied by tax rate.

[3] Tax effect of financial income = Financial income multiplied by tax rate.

[4] Change in working capital = Change in inventories and work-in-progress plus change in short-term trade receivables minus change in short-term trade payables.

[5] If Statement of changes in the financial position is available, then Gross investments = Cash flow from investments.
If Statement of changes in the financial position is not available, then Gross investments = Depreciations and reductions in value plus change in fixed and other non-current.

The ratio measures the company's ability to generate profits compared to the total capital tied up in the business operations. The ROA is more useful than the ROI, especially in cases where it is impossible to clarify the division between the interest-bearing and the non-interest-bearing external capital. According to Committee for Corporate Analysis, the ROA can be given the following benchmark values:

above 10% = good,
5–10% = satisfactory,
below 5% = poor.

Return on investment, ROI

Return on Investment (ROI) measures how profitable a company is relative to its invested capital. ROI measures a company's profitability and its managements' ability to generate profits from the funds investors have placed at its disposal.

Equation 3. ROI.

$$\textbf{ROI} = \frac{\text{Net result} + \text{Financial expenses} + \text{Taxes (12 mths)}}{\text{Average invested capital of the fiscal period}} \times 100$$

where

Average invested capital =
Adjusted shareholders' equity
+ Long-term liabilities
+ Short-term interest-bearing liabilities
+ Other short-term interest-bearing liabilities to corporate group companies.[6]

The ROI measures relative profitability i.e. the yield which has been generated on the invested capital which requires a return in the form of interest or something similar.

Comparing this ratio of different companies may be difficult if information from which to separate the interest-bearing liabilities (i.e. capital requiring return) from the non-interest-bearing liabilities is lacking. Big investments and revaluations of assets create difficulties in trend analysis.

ROI can be regarded as fairly good when it, at the minimum, amounts to the average financial expense percentage of the interest-bearing liabilities.

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[6] In business, a group, business group, corporate group, or (sometimes) alliance is most commonly a legal entity that is a type of conglomerate or holding company consisting of a parent company and subsidiaries. An associate company (or associate) in accounting and business valuation is a company in which another company owns a significant portion of voting shares, usually 20–50%. In this case, an owner does not consolidate the associate's financial statements. Ownership of over 50% creates a subsidiary, with its financial statements being consolidated into the parent's books. Associate value is reported in the balance sheet as an asset, and dividends from the ownership are reported in the income statement.

$$\textbf{Required minimum} = \frac{\text{Financial expenses}}{\text{Average invested capital of the fiscal period}} \times 100$$

Return on equity, ROE

The amount of net income returned as a percentage of shareholders equity. Return on equity (ROE) measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.

Equation 4. ROE

$$\textbf{ROE} = \frac{\text{Net result (12 mths)}}{\text{Average adjusted shareholders' equity of the fiscal period}} \times 100$$

The required ROE depends on the return required by the owners. This required return ratio is essentially affected by the risks involved. The company must be able to generate profits in order to be able to service the external invested capital and the owner's investment. Of all the return on capital ratios, the ROE is the one affected most by revaluations of assets.

Return on capital invested by municipality, ROCIM

Return on capital invested by municipality (municipalities) (ROCIM) measures the amount of profit a company generates with the money municipality (municipalities) have invested (Note; there can be multiple municipalities as shareholders).

Equation 5. ROCIM

$$\textbf{ROCIM} = \frac{\text{To the municipality}}{\text{From the municipality}} \times 100$$

where

To the municipality
= Profit (loss) before closing entries and taxes
+ Compensation from share capital invested by the municipality
+ Interest paid to municipality,

and

From the municipality
= Support and aid from municipality
+ Shareholders' equity
+ Loans from municipality
+ Depreciation difference and voluntary provisions (for instance for future investments).

5.2.4 Risk, Market beta

In Finnish financial analysis, the market beta represents share value's sensibility to the changes of the OMX Helsinki index.

Market beta (B) is covariance of growth of company's share value and market's profit growth divided by variance of market's profit growth. For unlisted companies ROI is used instead of the growth of company's share value.

Equation 6. Beta

$$\mathbf{B} = \frac{\mathrm{Cov}(\mathrm{Ri};\mathrm{Rm})}{\mathrm{Var}(\mathrm{Rm})},$$

where

Ri is company's share value (ROI for the unlisted companies), and Rm is market profit.

The greater the market beta, the stronger have the share value reacted to the changes of the OMX Helsinki index during the observation period. When market beta is 1 the share value changes in the same proportion as the OMX Helsinki index. When market beta is 2, the share value reacts doubly in the same direction to the changes of the OMX Helsinki index. When market beta is 0, there is no dependency between the share value and the OMX Helsinki index. When market beta is negative, the share value has reacted to the opposite direction to the change of OMX Helsinki index.

5.2.5 Cost of capital

Cost of equity, Re

Cost of equity (Re) is the return that equity investors require on their investment in the firm.

Equation 7. Re

$$\mathrm{Re} = \mathrm{Rf} + |\,\mathrm{B}\,| \times (\mathrm{Rm} - \mathrm{Rf})$$

where

Rf	=	risk-free interest rate
B	=	company's market risk
Rm – Rf	=	market risk premium. Market risk premium is the expected rate of return above the risk-free interest rate.

Absolute value is taken from beta, because beta can have negative values, but cost of equity is at the minimum the risk-free rate.

Cost of debt, Rd

Cost of debt (Rd) is the return that lenders require on the firm's debt. EBIT in the formula is that of the adjusted income statement operating result.

Equation 8. Rd, ICR

$$\textbf{Interest coverage ratio, ICR} = \frac{\text{EBIT}}{\text{Interest expenses}}$$

Interest coverage ratio is also known as debt service coverage ratio. Ratio should be over 1 to cover interest expenses. Table 3 presents the ratings used for the ratios.

Table 3. Interest Coverage Ratio.

Interest Coverage Ratio	Rating	Typical default spread	Market interest rate on debt
>8,5	AAA	0,35	3,93
6,5–8,5	AA	0,5	4,08
5,5–6,5	A+	0,7	4,28
4,25–5,5	A	0,85	4,43
3–4,25	A-	1	4,58
2,5–3	BBB	1,5	5,08
2,05–2,5	BB+	2	5,58
1,9–2	BB	2,5	6,08
1,75–1,9	B+	3,25	6,83
1,5–1,75	B	4	7,58
1,25–1,5	B-	6	9,58
0,8–1,25	CCC	8	11,58
0,65–0,8	CC	10	13,58
0,2–0,65	C	12	15,58
<0,2	D	20	23,58

Weighted average cost of capital, WACC

A firm's WACC is the overall required return on the firm as a whole.

Equation 9. WACC

$$\textbf{WACC} = \frac{E}{E+D} \times \text{Re} + \frac{D}{E+D} \times \text{Rd} \times (1 - T),$$

where

E = shareholders' equity
D = liabilities
Re = cost of equity
Rd = cost of debt
T = corporate tax rate.

5.3 Results from financial analyses

This section of the report provides some more in-depth look into ports studies in the project. We have selected four ports for a more thorough analysis and we have added Naantali Port to the analyses, which was not included in the comparative analyses in Chapter 3. Four ports are analysed in greater detail. The selection criteria for the four ports has been to choose two better and two worse performing ports. Looking at the free cash flows, we can note that the Port of Helsinki result has been weakened by the Vuosaari Port investments. Figure 35 shows the free cash flow of ports.

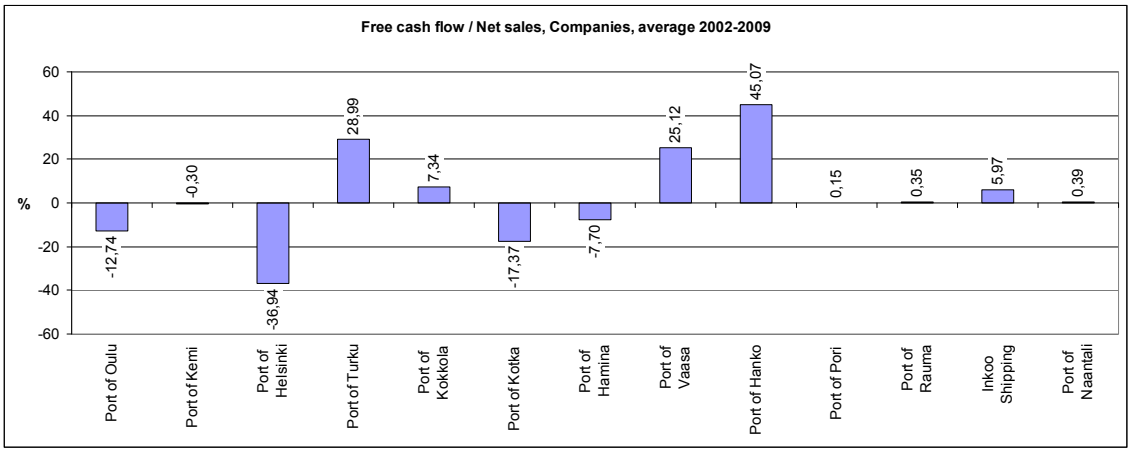

Figure 35. Ports, free cash flow, average 2002–2009.

The following two figures (Figures 36 and 37) present the ports grouped by ownership. The first figure represents the average free cash flow percentage over the period 2002–2009, and the other one the weighted free cash flow with respect to turnover. As there is only one private and one municipal port, there results remain same for both groups. The free cash flow of ports in the MOE group becomes negative in the case of weighted average, due to Port of Helsinki's influence through its large net sales.

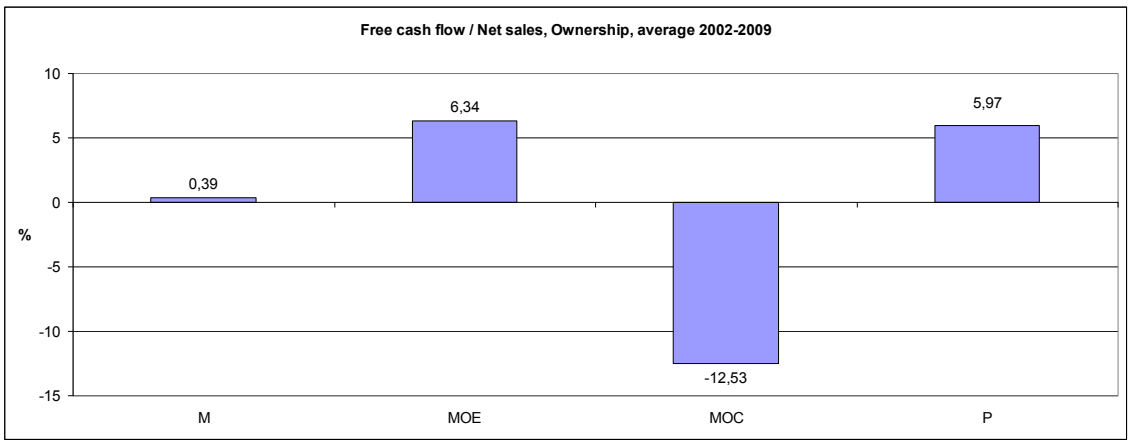

Figure 36. Ports free cash flow average by ownership.

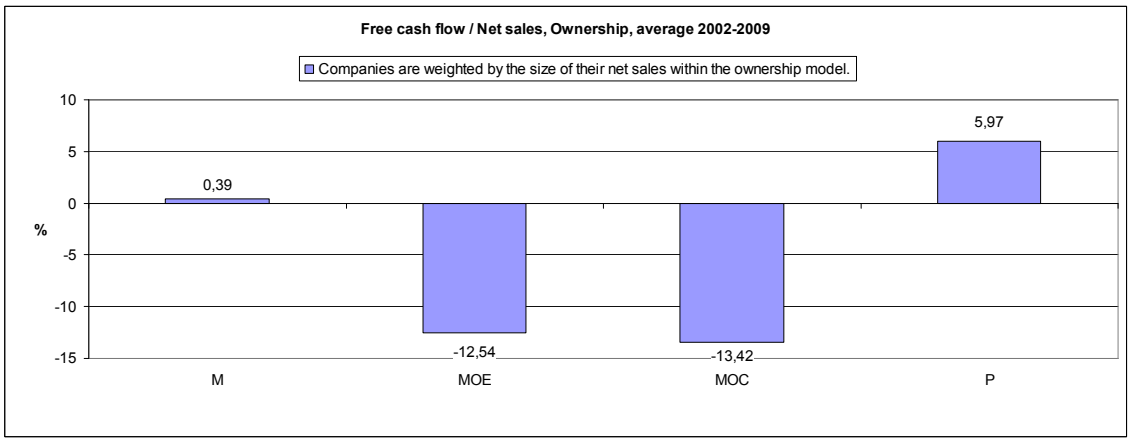

Figure 37. Ports free cash flow weighted average by ownership.

The two specialised ports, Naantali and Hanko better return on assets (ROA) than other ports. However, all the ports have performed at least satisfactory. Figure 38 shows the average ROA for ports for 2002–2009.

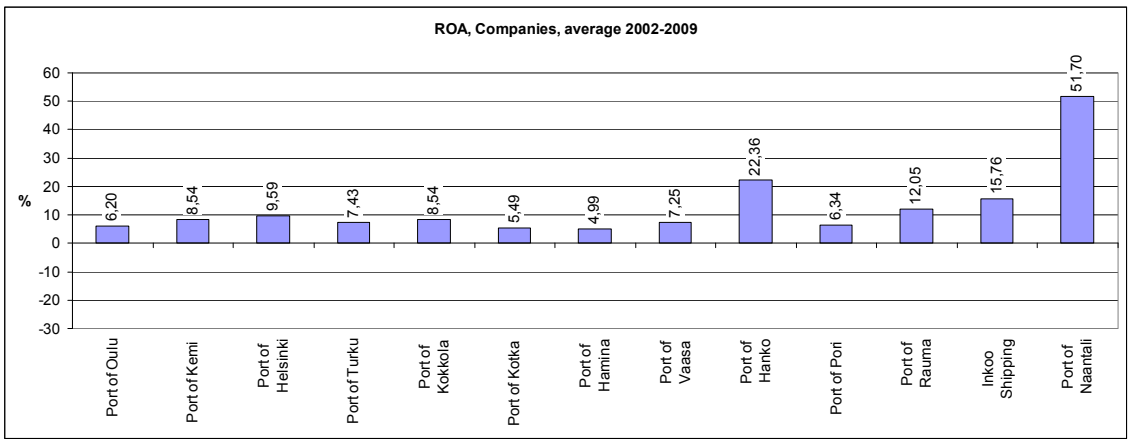

Figure 38. Ports ROA, average 2002–2009.

In the grouping by ownership model again the groups M (Naantali) and P (Inkoo Shipping) consist of only a single entity. As a group the MOEs have performed better than MOCs. Again all the groups have reached at least a satisfactory result.

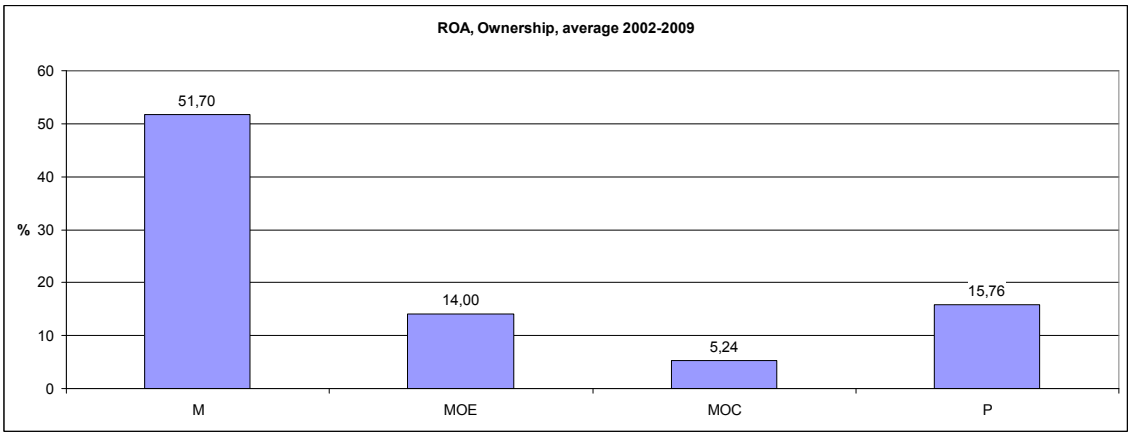

Figure 39. Ports ROA grouped by ownership, average 2002–2009.

Return on investment (ROI) is better than the required minimum (calculated as the expected minimum return on investment) for all the ports, as shown in Figure 40. Port of Naantali has the highest value of ROI but the required minimum has also been highest. Naantali, Hanko and Inkoo Shipping have best performance with respect to absolute and required minimum requirements.

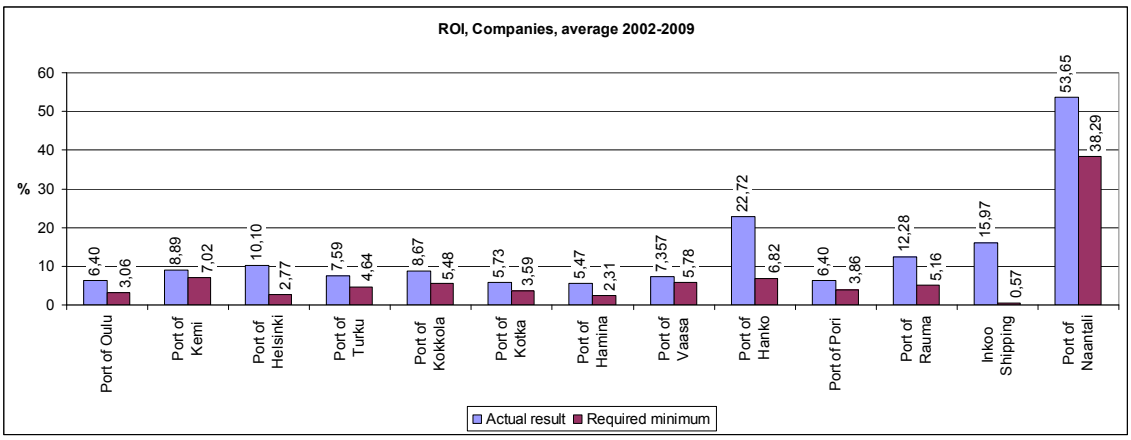

Figure 40. Port ROI, average 2002–2009.

When the ports are grouped by the ownership all groups have achieved higher ROI than the required minimum, as shown in Figure 41. Again MOEs have exceeded MOCs both with respect to absolute and required minimum.

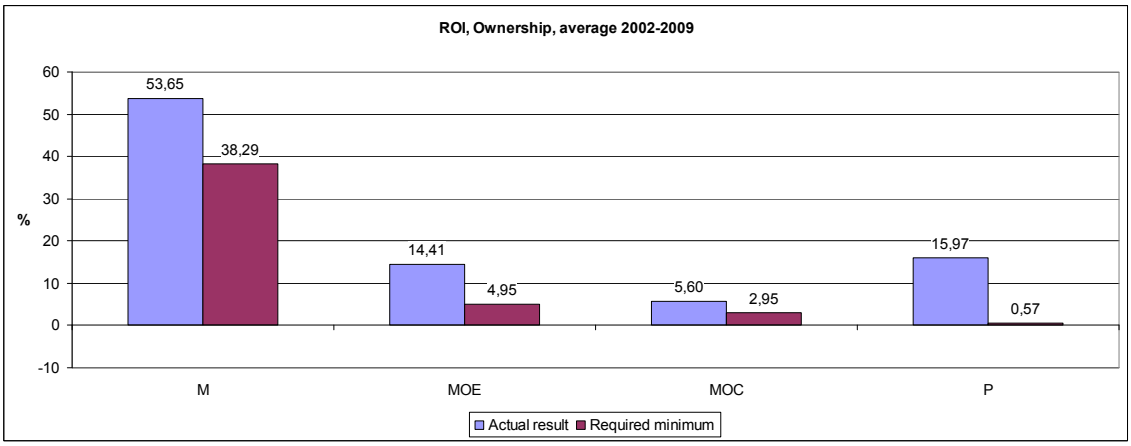

Figure 41. Port ROI, grouped by ownership, average 2002–2009.

Ports of Hanko, Naantali and Inkoo Shipping have, as in the case of ROA, performed better than other ports for their revenue on equity (ROE). Ports of Kemi, Turku, Vaasa and Pori have performed worse than their required minimum, as seen in Figure 42. Their performance has been also lower than the risk-free revenue from government bonds (3.58%).

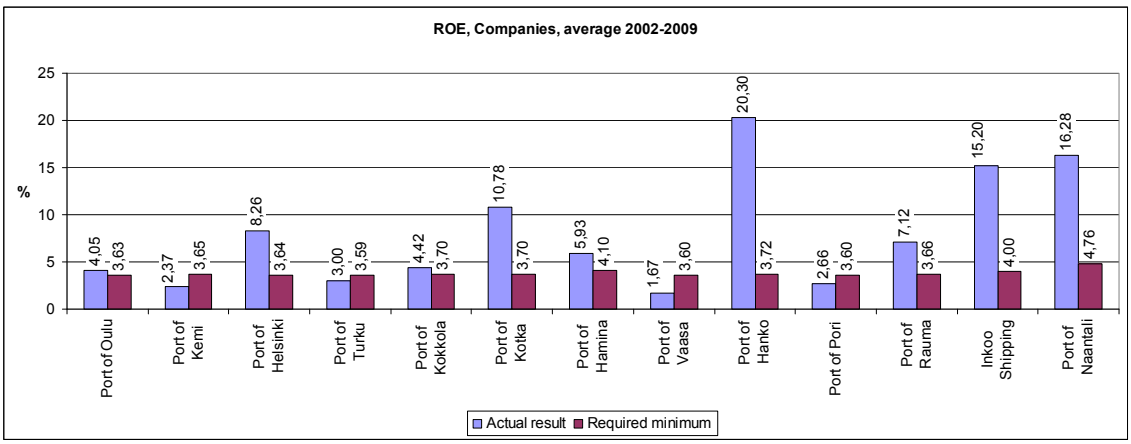

Figure 42. Port ROE, average 2002–2009 contrasted with required minimum.

Comparison of ROE grouped by the industry in Figure 43 shows that MOCs have performed slightly better than MOEs. The other groups again have only one entity each.

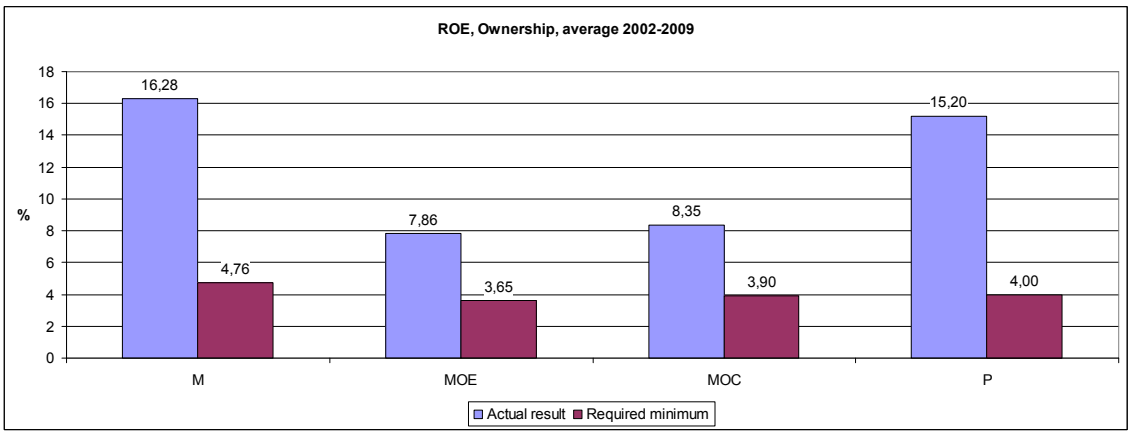

Figure 43. Port ROE grouped by ownership, average 2002–2009.

When revenue on capital invested by municipality (ROCIM) is calculated, we can see that all ports have exceeded the required minimum level and the risk-free interest rate of government bonds. In this respect investing the money in ports has been a good investment decisions from the municipality. Figure 44 shows the results.

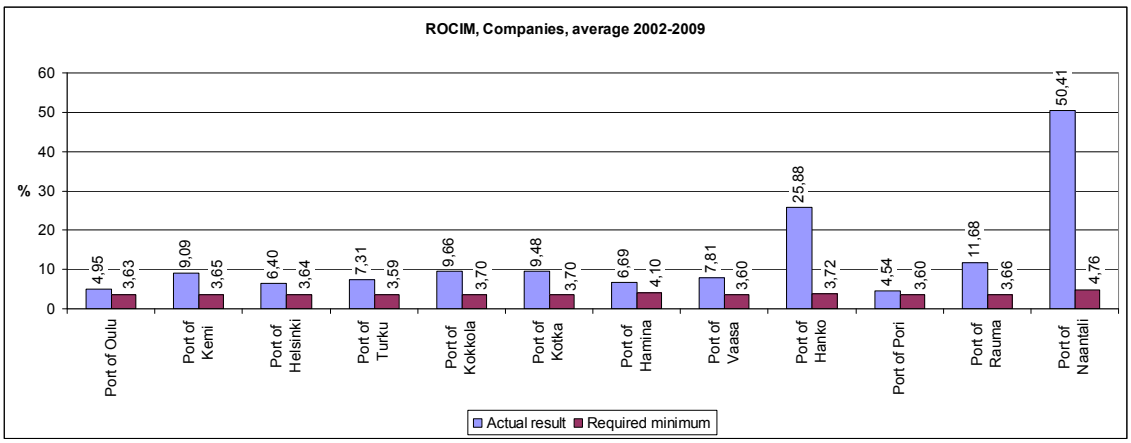

Figure 44. Port ROCIM, average 2002–2009.

Grouped again by the ownership, MOEs have provided more returns to municipalities than MOCs. As municipal ports consist of Port of Naantali only, the results of group "M" cannot be generalized, especially since Naantali is a specialized port. ROCIM by ownership is shown in Figure 45.

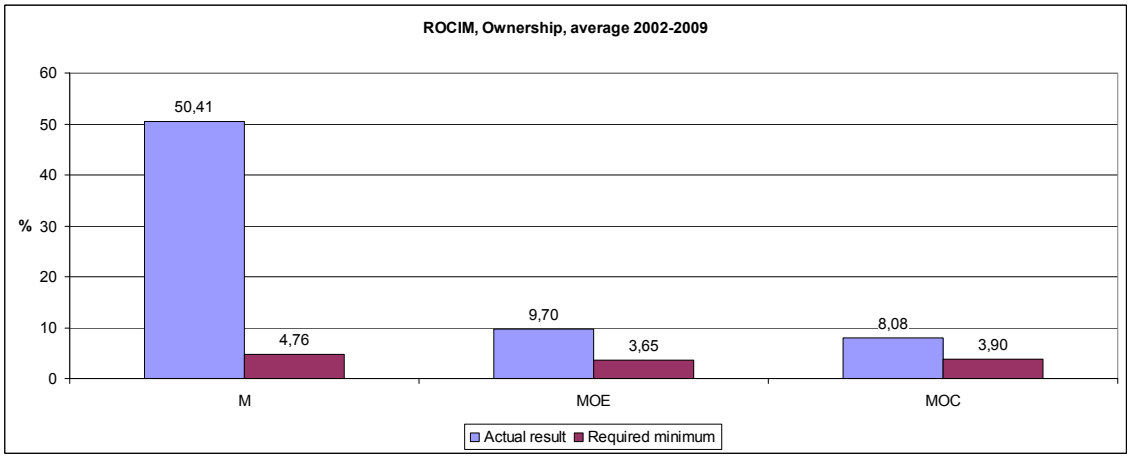

Figure 45. Port ROCIM, by ownership, average 2002–2009.

Values of beta were also calculated for all ports. Results in Figure 46 show that values of beta are close to zero, which means that they have reacted to changes in the markets only a little. When individual years' results are taken into consideration, the 2009 figures were weaker than other years for all the ports.

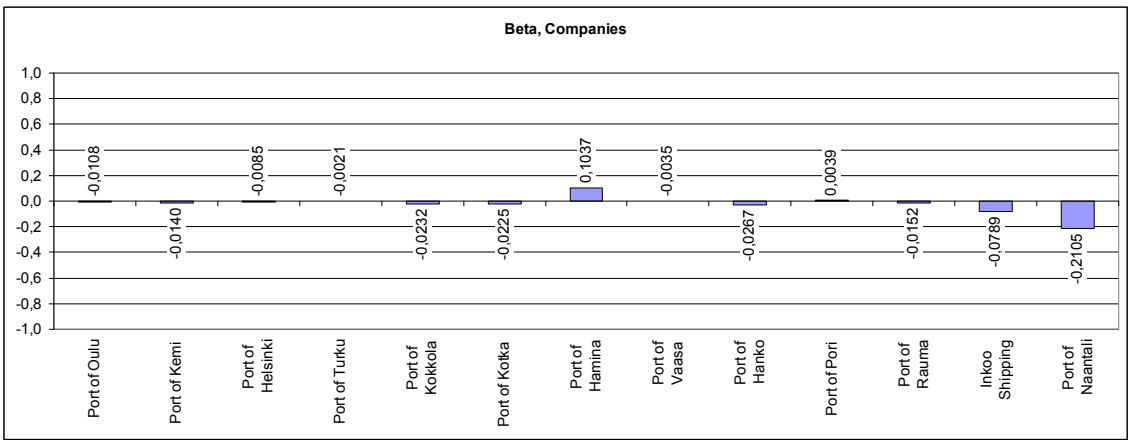

Figure 46. Beta values for ports.

As all beta values are close to zero, the cost of equity for all ports is close to the risk-free interest rate of 3.58% as shown in Figure 47.

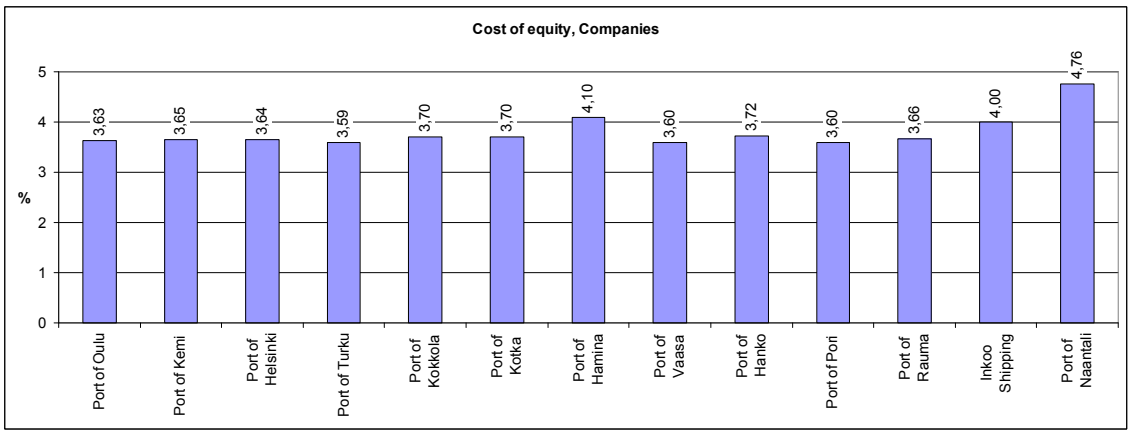

Figure 47. Ports, cost of equity.

According to financial statements information none of the ports has performed bad, the worst rating would be B-. Inkoo Shipping would receive the best credit rating AAA. Because every other port is more connected to the municipality, they receive loans with terms better than their credit rating would suggest. The cost of debt is shown in Figure 48.

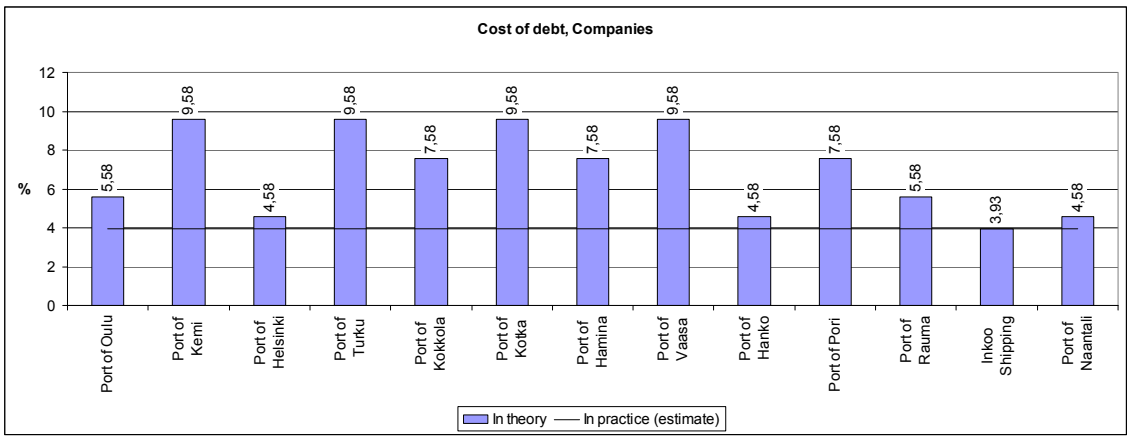

Figure 48. Ports, cost of debt in theory and in practice.

According to cost of debt figures (Figure 49), MOCs financial statement information would suggest they should pay a higher interest rate on their loans than MOEs. However, due to the municipality connections and access to finance in reality the rates are likely to be identical.

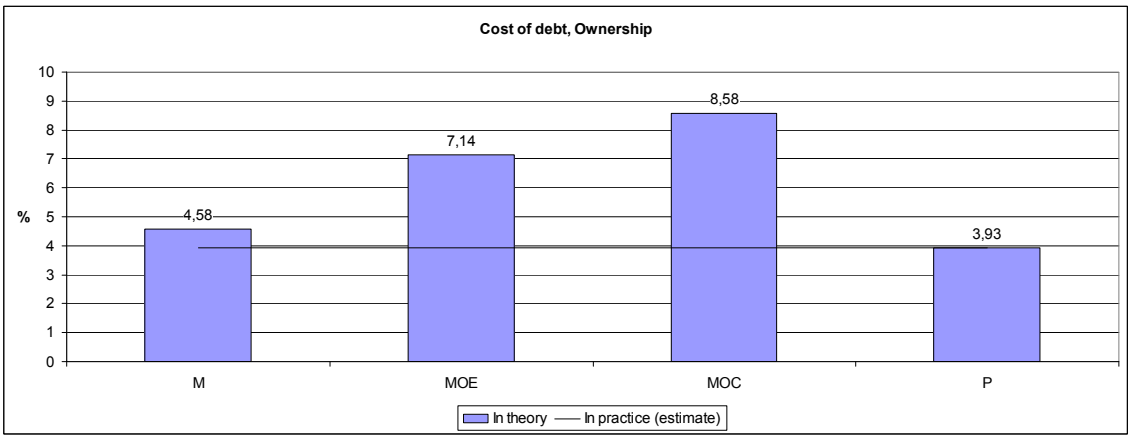

Figure 49. Ports, cost of debt by ownership.

Figure 50 shows the WACC for ports. The taxes paid by ports lower the WACC for Kotka, Hamina and Inkoo Shipping, which pay taxes. Port of Kotka has the smallest WACC and Port of Naantali the largest.

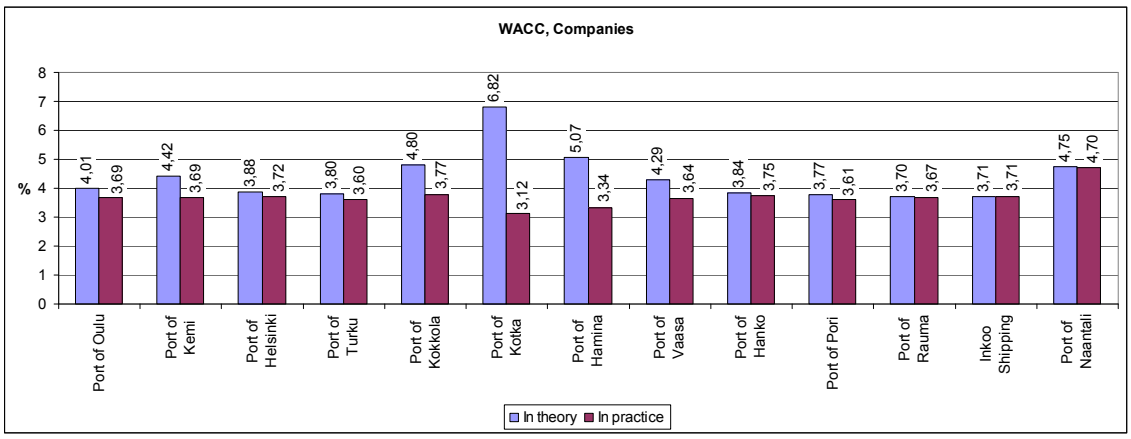

Figure 50. Ports, WACC in theory and in practice.

When organized by ownership (Figure 51), the theoretical WACC of MOCs is greater than that of MOEs, however in practice it is lower than MOEs. Again, the taxation of MOCs is the determining factor.

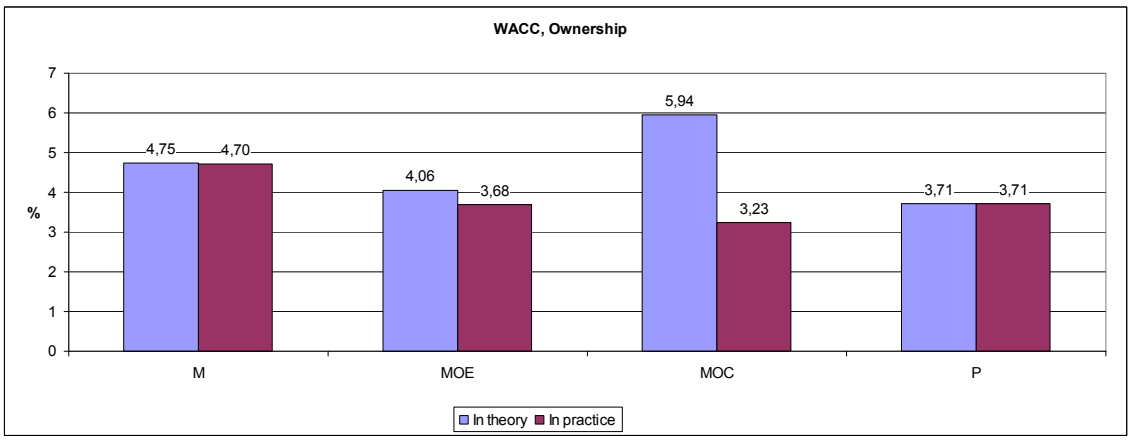

Figure 51. WACC by ownership, in theory and in practice.

The following presents a more thorough look at financial information and financial performance indicators of individual ports. For most, the presented data are from 2002–2009 and cover basic financial data as well as financial performance data.

The net sales at **Port of Kotka** have increased steadily with the exception of the decline in 2009. The basic financial data for Port of Kotka was presented in Figure 29. This decline is most likely the result of worsening economy in Finland during the year. The amount of free cash flow correlates with gross investment fluctuations. Thus, the negative free cash flow is an indicator of investments rather than poor financial performance.

Looking at the financial indicators in Figure 52, we can see that Port of Kotka has generated positive returns every year. The returns are mostly affected by the fluctuations in net result. Municipality has received variating but positive returns every year. Interestingly, the return does not directly link to free cash flow or net sales.

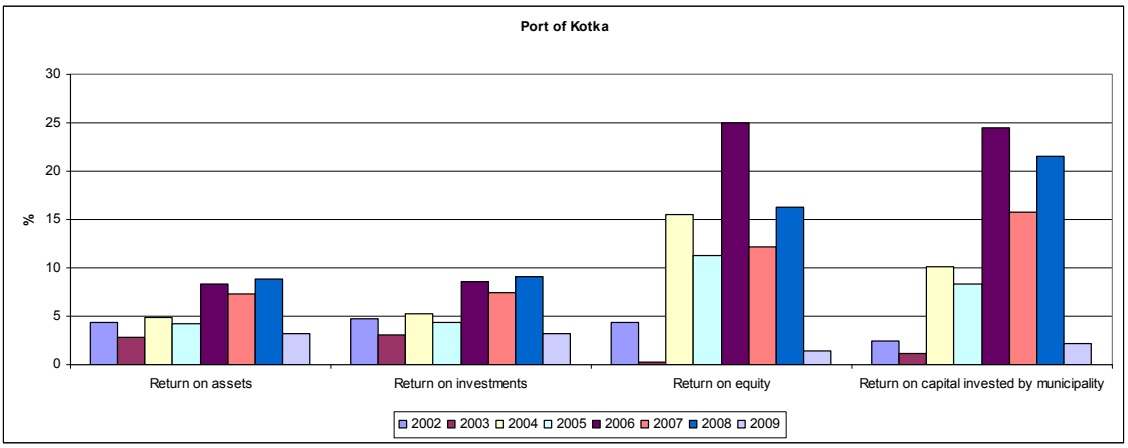

Figure 52. Port of Kotka financial indicators, 2002–2009.

The **Port of Hamina** does not have financial statements available for 2009. Until 2008 the net sales have increased steadily, as shown in Figure 31 earlier. In 2008 Port of Hamina sold its assets worth 11 million euro, which explains the positive free cash flow for the year.

Looking at the financial indicators in Figure 53, in 2007 Port of Hamina has created a loss to the owners (return on equity) and in 2008 to both owners and investors (return on equity and ROCIM).

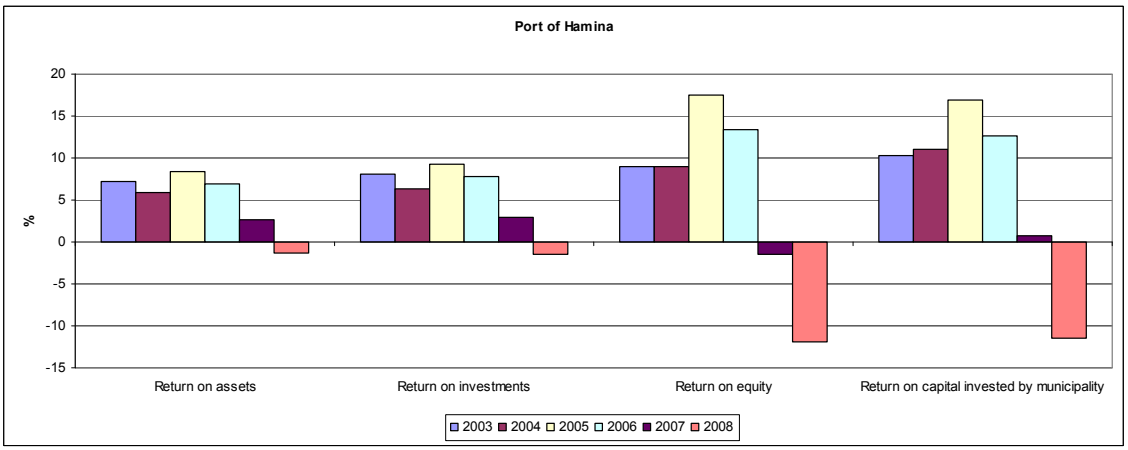

Figure 53. Port of Hamina financial indicators, 2002–2008.

The net sales of **Port of Hanko** have varied from one year to another but the net result has remained positive. The basic financial data were reported in Figure 21. The free cash flow has also remained positive despite large gross investment volumes. The Port of Hanko has given the municipality a fixed transfer every year, leaving resources available for investments and savings. Port of Hanko specializes in car exports and this has apparently been a good strategy.

Looking at Port of Hanko financial indicators in Figure 54 we can note that the port has made good returns to owners and investors, with the 2009 result being the exception. This again is the result of overall economic situation in Finland.

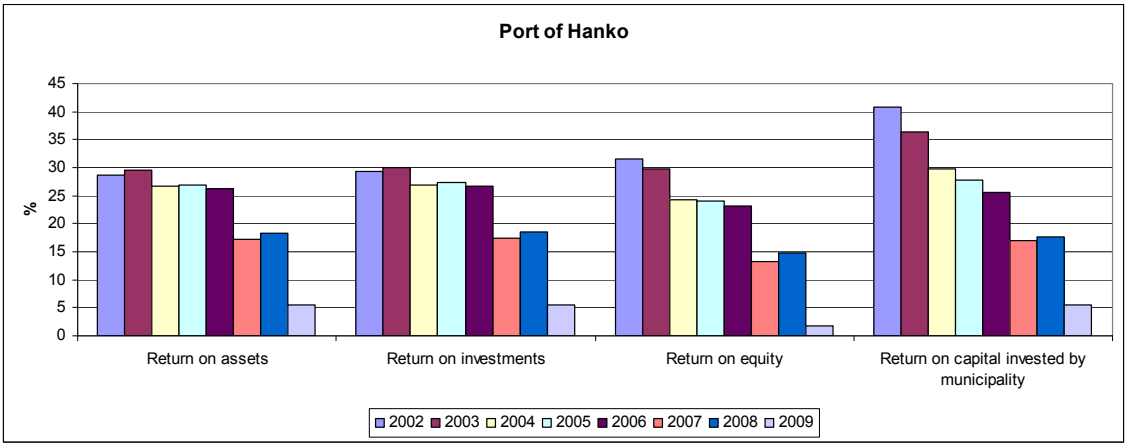

Figure 54. Port of Hanko financial indicators, 2002–2009.

The net sales of **Port of Naantali** (see Figure 4) have increased steadily with the exception of 2009, which seems to have affected most ports. The net result has been positive every year and the free cash flow has been negative only when major investments have taken place. The compensation to municipality has varied but when contrasted with net sales the transfers have been relatively large.

The net result has been positive every year, which has resulted in high returns. Particularly ROA and ROI have been good, as reported in Figure 55 below, and the returns to municipality have also been high but varying from one year to another.

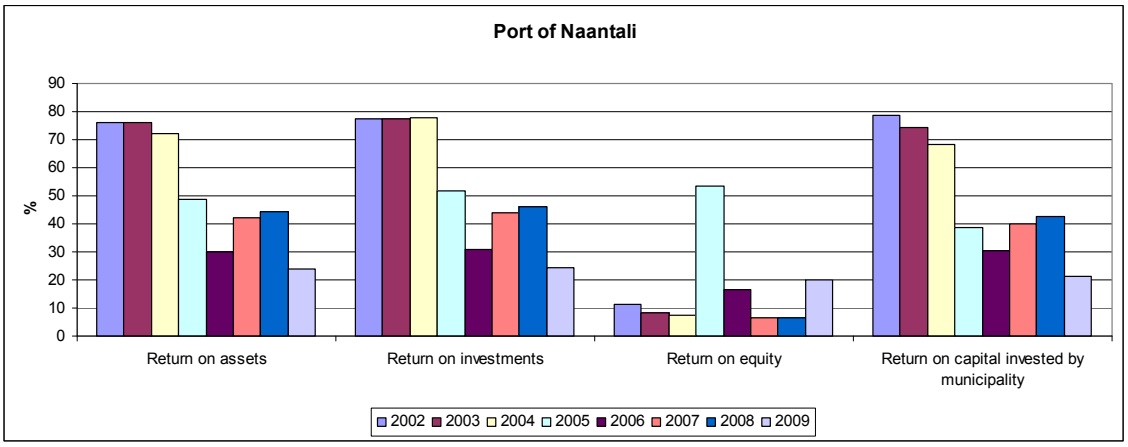

Figure 55. Port of Naantali financial indicators, 2002–2009.

The basic financial data for **Port of Oulu** is shown in Figure 9 earlier. Despite significant gross investments over the period the port has produced a positive net result for the whole period, boosted by a strong net sales performance. The compensation to municipality has been stable in the first part of the period, showing greater variety in the last 4 years.

The returns from port to the shareholders, investors and the municipality have been of good level for all years with the exception of 2003. Some investments took place that year, but cannot entirely explain the result as larger gross investments took place in 2006 yet the returns were highest of the period. Financial performance indicators are shown in Figure 56.

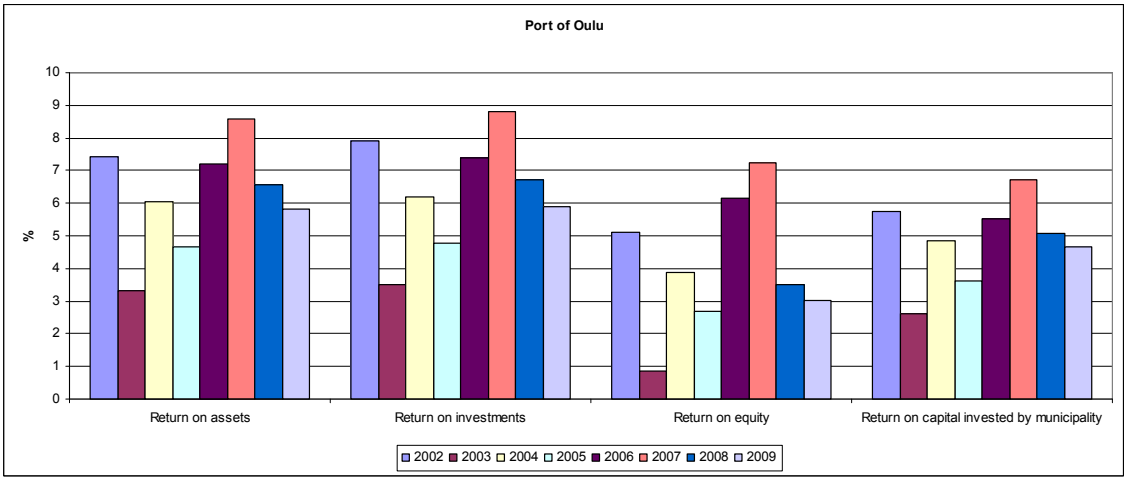

Figure 56. Port of Oulu financial performance indicators.

For **Port of Kemi**, the high net sales impact has been offset by high gross investments on several years. This has led to negative free cash flow and a modest net result. However, the compensation to municipality has varied more or less following the changes in net sales. Basic financial data were shown in Figure 11.

When measured by financial performance indicators, Port of Kemi has done well in all other aspects except for return on equity (see Figure 57). The municipality has enjoyed particularly healthy returns, but as net sales have declined in the last two years, the returns have also declined quite strongly. Port of Kemi has clearly followed a model of adjusting the returns to the municipality according to changes in turnover.

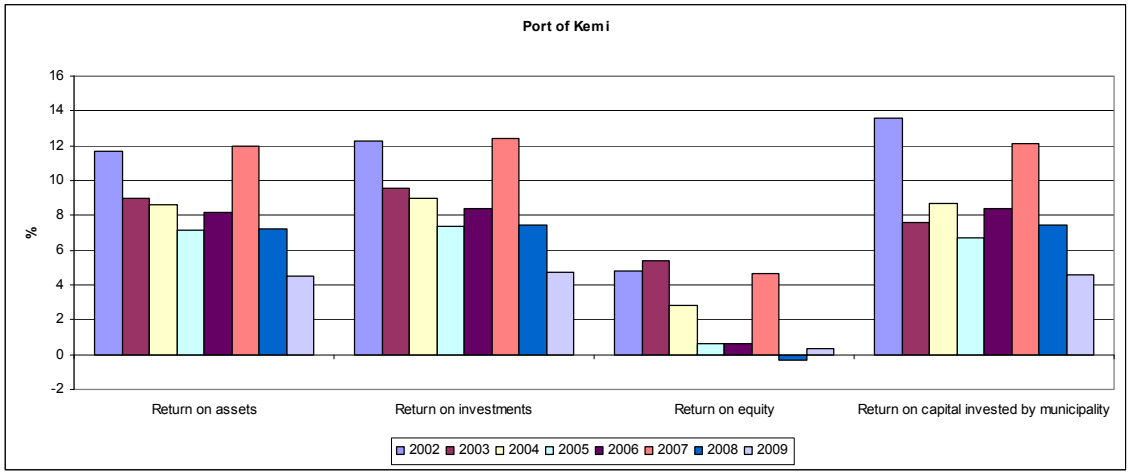

Figure 57. Port of Kemi financial performance indicators.

For **Port of Helsinki**, the period has been dominated by the construction of Vuosaari Port. This shows also in the financial performance (Figure 13 earlier), as the cash flow has been negative for half of the period. However, compensation to municipality has remained at a fixed level even trough the investment period.

The financial performance is similar to that of Port of Kemi, as the returns to all stakeholders have been good except for the past two years. Especially in 2009 the decline was steep, indicating the impact of recession on the port activity. Figure 58 shows the Port of Helsinki financial performance.

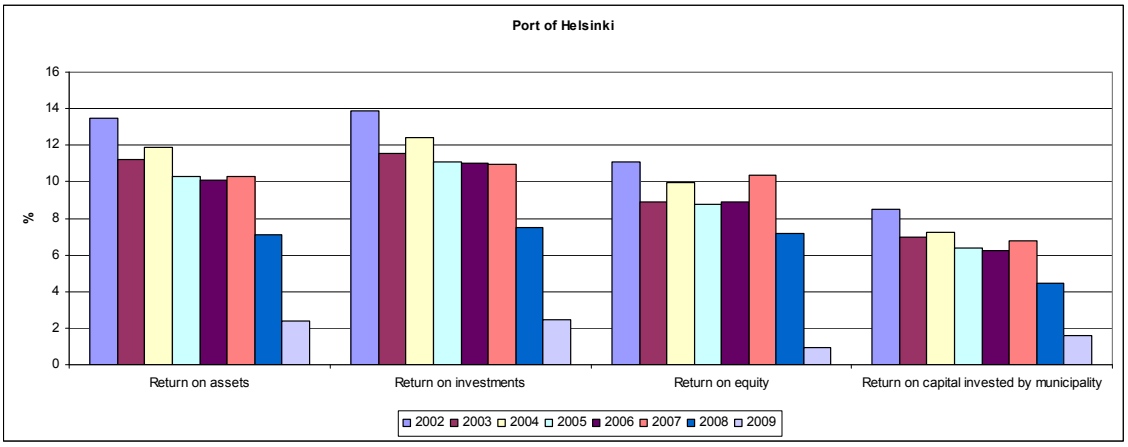

Figure 58. Port of Helsinki financial performance data.

For **Port of Turku**, the municipality has received a fixed compensation for the entire period of analysis, despite fluctuations in operating profit. Turku appear to have been relatively unaffected by the economic downturn, with only minor decline in net sales and operating profit, with net result and free cash flow adjusting to compensation level. Figure 15 earlier showed Port of Turku financial data.

The returns made by the port to investors and stakeholders have been impressive with the exception of return on equity (Figure 59). Again, the impact of economic recession is visible in the financial performance, but the municipality through ROCIM has not suffered the impact of recession in 2009, in fact having higher return than in 2008.

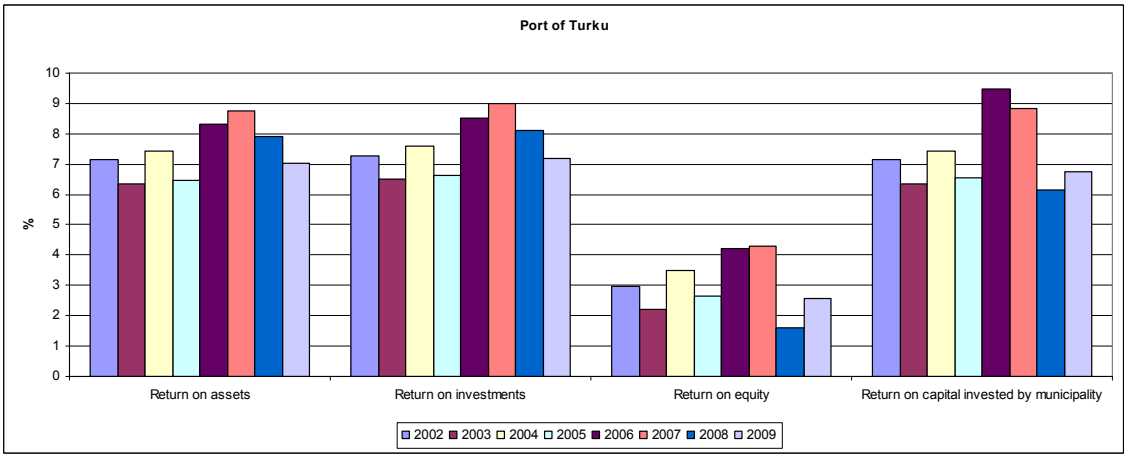

Figure 59. Port of Turku financial performance data.

For **Port of Kokkola**, the financial data shows a steady performance over the period. Net result has been modest, but in spite of some major investments taking place over the period the compensation to municipalities has remained fixed. This has led to some ma-

jor changes in free cash flow. Basic financial data for Port of Kokkola were reported in Figure 17.

Port of Kokkola has also made good returns on ROCIM, ROA and ROI, but only for the second part of the analyses period also for ROE. Port of Kokkola's financial performance data are shown in Figure 60.

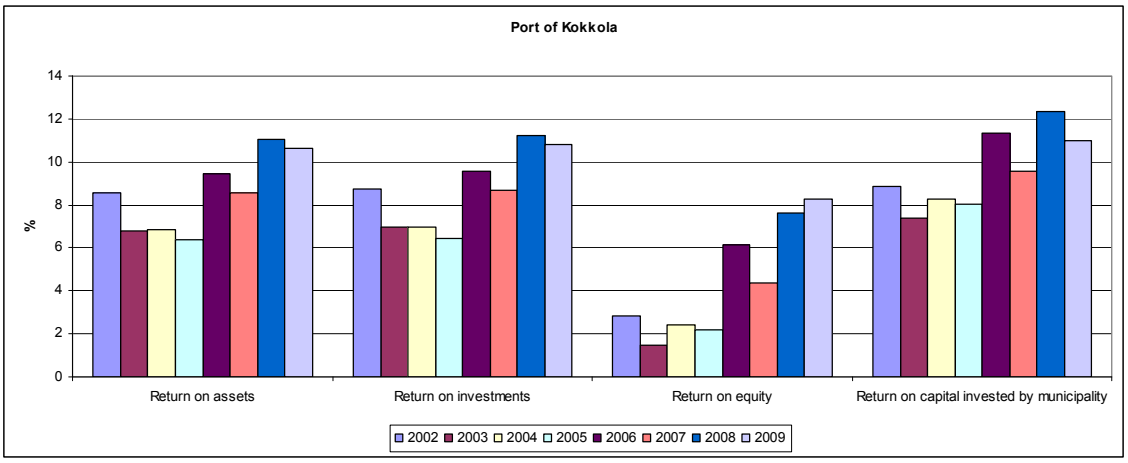

Figure 60. Port of Kokkola financial performance data.

Port of Vaasa has had fluctuating results over the period, which also shows as fluctuation in compensation to municipality. Compensation has been paid in all years, including 2002 and 2005 when the net result has been negative. Large investments in 2002 resulted in poor financial performance including the free cash being negative, for 2005 the reason appears to be a declined in net sales. Basic financial data for Vaasa were reported in Figure 19.

Returns of Port of Vaasa have shown a normal level, except for ROE, which has fluctuated greatly and also been negative for two years. ROCIM has also fluctuated, which is in line with returns to municipality shown earlier. Figure 61 shows the basic financial data for Port of Vaasa.

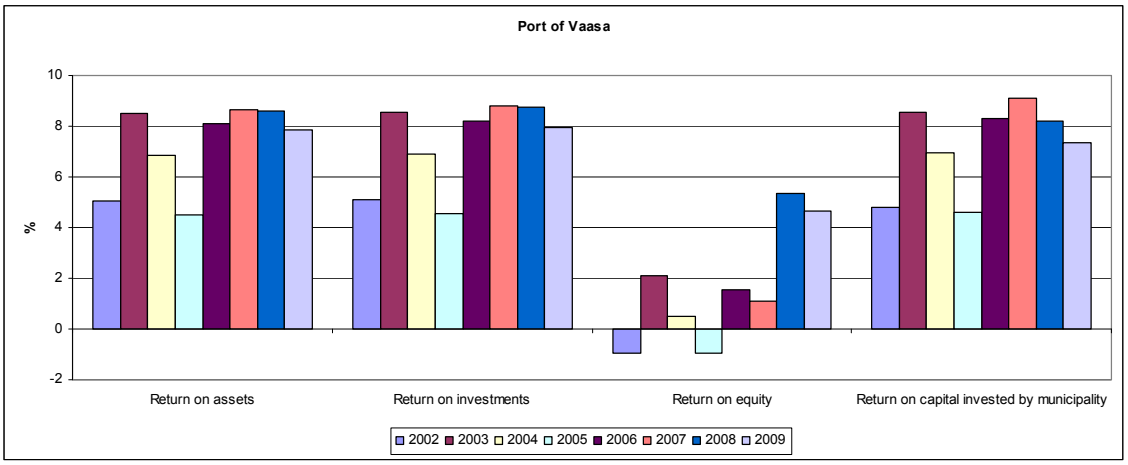

Figure 61. Port of Vaasa financial performance data.

Port of Naantali has made good net sales and a positive net result for all the years, in spite of the gross investments resulting in negative free cash flow for two years. Basic financial data were reported in Figure 4. Compensation to municipality has varied greatly over the period, indicating that the port pays compensation based on a floating model. However, the compensation is not directly related to any other financial data indicator.

Returns of Port of Naantali, with the exception of ROE, have been extraordinary high for the entire period. ROE has fluctuated with peak performance in 2005 and more moderate performance on all other years. Other returns have shown a declining trend, which in contrary to net sales development. Figure 62 shows the basic financial data for Port of Naantali.

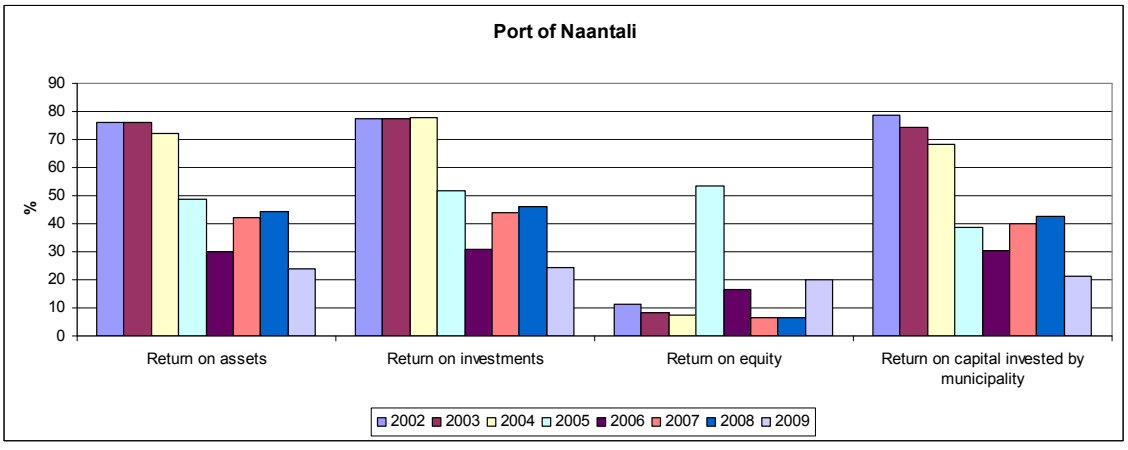

Figure 62. Port of Naantali financial performance data.

Inkoo Shipping, a private port, has made strong net sales with a decline in 2009, but free cash flow has remained relatively small compared to sales, with a negative outcome

in 2004. As a private company, Inkoo Shipping has not paid any compensation to the municipality. Gross investments over the period have been modest, as shown earlier in Figure 34.

Returns on assets have remained strong except for 2009, when all indicators have shown a large decline in returns. Figure 63 shows the financial performance data in more detail.

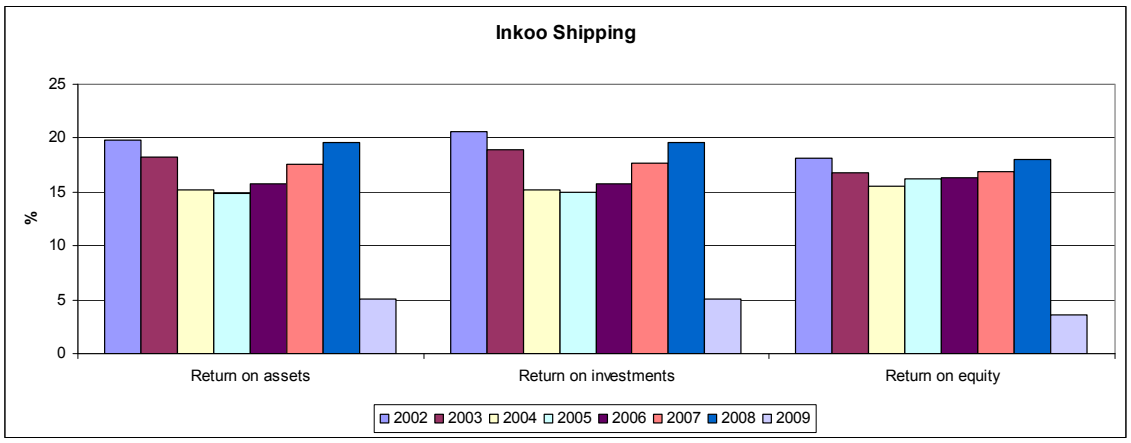

Figure 63. Inkoo Shipping financial performance data.

Port of Pori has produced strong net sales ove the period, but free cash flow has fluctuated and in one of the years the net result has also been negative. Large gross investments in 2008 have led to negative cash flow, but for 2005 there is no clear explanation to the negative result. Compensation to municipality has not been paid in all years, but for 2006–2009 the compensation amount has been fixed. Basic financial data for Pori were reported in Figure 23.

The returns from Port of Pori have remained at lower levels than im most ports, and ROE and ROCIM have been negative in 2005. As shown above, that particular year also the net result was negative as well as the free cash flow. Full indicator results are shown in Figure 64.

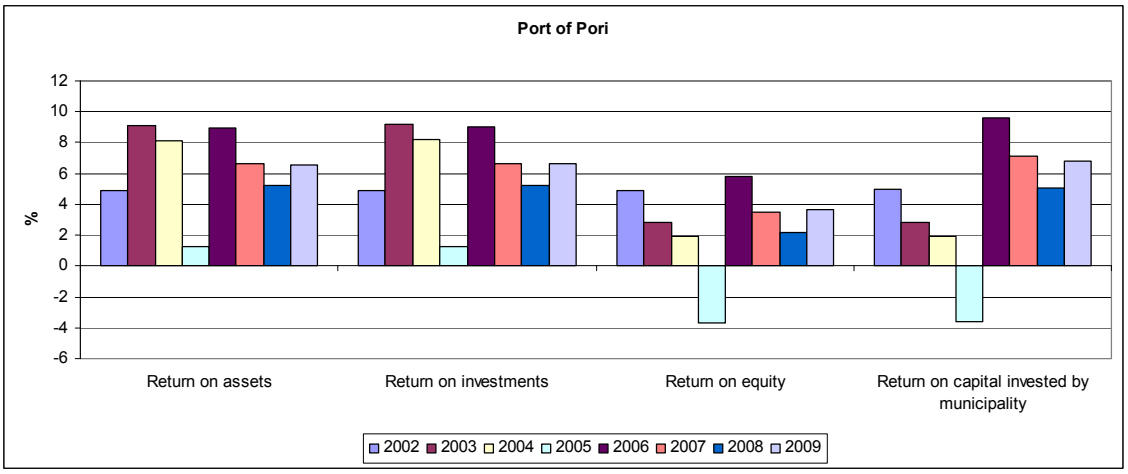

Figure 64. Port of Port financial performance data.

Port of Rauma has produced a good net sales record over the period, resulting in good operating profit and net result. The gross investments have affected free cash flow accordingly, but the port has been able to provide a fixed compensation to municipalities for all years. Figure 25 earlier showed the financial data of Port of Rauma.

The good performance is also reflected in returns, which have been of good ratio (4 to 15 per cent) for all the returns calculated. The municipality for instance has received returns exceeding 10 per cent in all but last year of analyses. Figure 65 shows the returns.

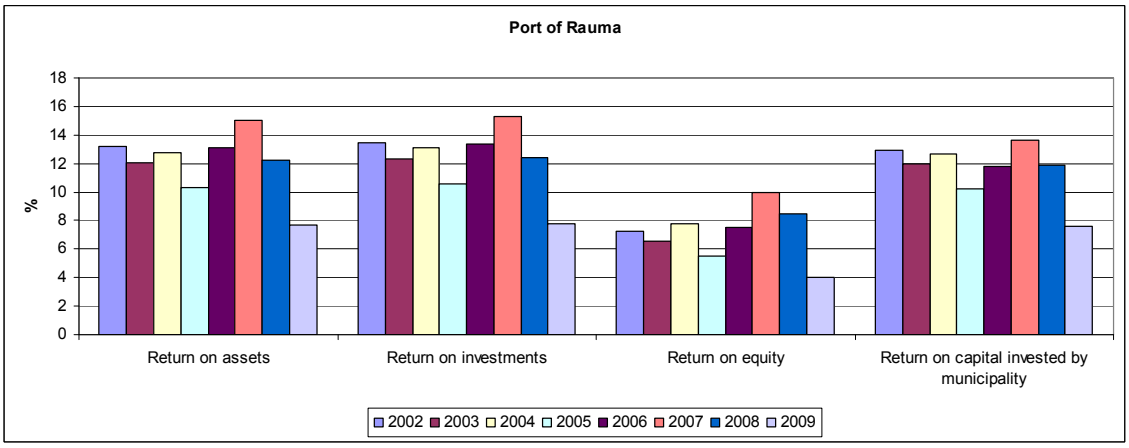

Figure 65. Port of Rauma financial performance data.

6. Future challenges and opportunities

Municipalities in Finland are facing several challenges that are external to them, yet combined with restructuring and governance issues in the municipality infrastructures the challenges can become even more dominant in the future. The on-going economic downturn has seen financial resources for municipalities become scarce, including tax revenues from residents due to increasing unemployment, and a large number of retiring workers. The second set of constraints comes from the institutional arrangements. To a great extent the problems arise from limited asset management understanding, which makes it difficult to plan fees and tariffs to match full cost recovery. This has led to problems in valuation of required maintenance and investment costs.

Ports particularly are facing challenges in the near future. Upcoming reforms to municipal legislation, continuously tightening competition between ports and municipalities' financial difficulties, force port administrations to develop new ways to improve their efficiency and competitiveness. Ports will soon have to start the restructuring process into municipal owned companies. Some have already started to prepare for the change. In most ports restructuring is not seen only as a challenge, but more like a great opportunity to improve the administration and boost the operations.

6.1 SWOT-analysis of ownership and governance models

The SWOT analysis in this section describes the strengths, weaknesses, opportunities and threats based on the information from the studied ports. SWOT analysis is a technique of mapping out the current state of affairs for an industry or sector, with the possibility of looking forward in terms of the potential for the sector. This is particularly useful when stagnation occurs and issues have stalled into a status quo, and where opportunities and threats suggest a potential way forward. In this case, the SWOT analyses are made from the owner/financier perspectives.

6.1.1 Traditional municipal ports

The traditional municipal ownership is still at the moment the most typical model used by the Finnish ports, when including also the inland ports. A traditional municipal port is a legal part of the municipality as a budgetary unit. No separated financial statements or balance sheets are required, although some traditional ports choose to keep their finances separated from the municipality. The SWOT for the traditional model is discussed and highlighted next (see Table 4).

Strengths

The most important strengths of the traditional model are related to the stability and security that comes from public control and public recourses, large assets in operations and facilities, the backing of the municipality's resources, good knowledge of day-to-day operations, and understanding the local politics and residents' concerns. Municipal ports are usually strong local employers both directly and indirectly. In addition, at the moment municipal ports are not liable for any sort of taxes related to operating the port. That is strength from the municipality's point of view, but at the same time it is preferential tax treatment. In a competitive market this causes unwanted distortions.

Weaknesses

Weaknesses of the traditional model include large overheads, high cost of workers and the lack of (internal) competition. The large costs are an historical result from the large assets and from the many permanent workers for carrying out the services. A more important weakness, however, is the model's high vulnerability to political interventions and interferences in the operations, which ideally, in this model, should be managed by the technical director or a designated manager. There is also an inherent barrier to innovation since there are no drivers for change or a champion in the organization who desires to take upon significant risks that may lead to bad consequences. In addition the decision making process is often slow and rigid, which can also have a negative effect on motivation to innovate and create more efficient ways to operate.

Table 4. SWOT of traditional municipal ports.

S Creates security -> municipal employer Juridical part of municipality -> financial and other resources -> public control Preferential tax treatment Superstructure development and cargo handling operations are usually the responsibility of the same organization (unity of command)	**W** There is no role or only a limited role for the private sector in cargo handling operations There is lack of internal competition, leading to inefficiency Operations are not user or market oriented Lack of innovation Public procurement rules Slow decision making
O Arrangements of profit and financing can be more flexible inside municipality Resources from the municipality for investments and development of operations	**T** There might be less problem solving capability and flexibility in case of labor problems, since the port administration also is the major employer of port labor Wasteful use of resources and underinvestment as a result of government interference and dependence on municipal budget Changes in tax code that remove or lessen preferential tax treatment

Opportunities

Opportunities for this model can be found mainly from the possibilities of arranging financial issues in a flexible way inside municipality. Secure resources from the municipality for investments and operations development can also be an opportunity for the port.

Opportunities also include improvements in quality and service based on regularly collected customer feedback, or endeavours to perform good public service. The technical organization has skilled workers and a historical knowledge of the local area. There is a great potential of these integrated organizations to perform life cycle analysis and have a long-term holistic approach, but they have not taken advantage of this potential.

Threats

Probably the greatest threats are too low levels of investment, public procurement rules, and a bureaucracy that may slow down decision-making. A significant threat is tax legislation change that removes the preferential tax treatment. Threats also include the possibility of inefficiency of operations that leads to wasteful use of resources.

6.1.2 Municipality-owned port enterprises

The most common ownership model for Finnish seaports is so called municipality-owned enterprise (MOE). MOEs are independent accounting units inside the municipality. The council of the municipality or a joint municipal board has granted for a MOE a

more independent budgetary status than that of other municipal functional units (see Table 5).

Strengths

A MOE-port's interdependent relationship with the municipality can be considered as strength. The close relationship with the municipality can also be an advantage in image creating and marketing. The MOE also has the advantage of owning a large asset pool consisting of equipment, depots, real estate located in prime areas, operational know-how, personnel, and public surety. Another significant strength of the MOE model includes currently favourable taxation position compared to the private sector. The efficiency of the MOE is significantly greater than that of the traditional model in terms of administration, productivity, cost knowledge and accountability, and independence, albeit partial, from the bureaucracy.

Weaknesses

Weaknesses include political interference, bureaucracy and hierarchy, which result from the municipal ownership. One essential weakness for this model is lack of legislation of MOEs. The lack of independence and inflexibility in decision making is also a weakness. The decision making process in municipalities is often multi-phased and slow. Publicly owned ports also have to follow the public procurement rules.

Table 5. SWOT of MOE ports.

S Juridical part of the city/municipality -> financial and other resources -> public control Preferential tax treatment Creates security -> municipal employer -> contracting partner Impartial treatment of customers Foreclosure possible for fees under public law	**W** Lack of legislation of MOEs -> formality of decision making (local government act) -> lacking independence Multi-phased and inflexible decision making process Inflexibility of pricing Public financing operations are not sufficiently transparent
O Arrangements of profit and financing inside MOE can be more flexible Strong resources for investments and development of operations Ports can perhaps continue as MOEs as EU does not interfere	**T** Bureaucracy and complaining process slow down the decision making process Political control The operation of MOE is not considered as business based -> missed business opportunities -> competitors get ahead -> the stiffness of reward system Obligation to supply gratuitous services Changes in tax code that remove or lessen preferential tax treatment MOE-ports can be banned by the upcoming law

Opportunities

Majority of the opportunities of MOE are the same as in the traditional model. Arrangements of profit and financing inside MOE can be more flexible as compared to the municipal owned company. Ports can also get loans and subsidies from the municipality. One opportunity is of course evolving into a municipality owned company, but not many ports have actually done this transition yet. The restructuring process contains many risks and can be simply too expensive an operation to the municipality at the moment. On the other hand it is going to be obligatory in the near future anyway, so most ports consider the necessity as an opportunity. Or at least they should. The opportunities also include moving toward the business model and focusing more on customer orientation. A significant potential exists from innovation and in operational improvements with continual improvements and fine tuning the practices.

Threats

The most significant threats include political interference, barriers in decision-making and changes in taxation, which have recently been discussed in the media. Threats also include bureaucracy which can restrain and slow down decision making and innovative activities. The functioning of the MOE is not purely business like, which can lead to missed business opportunities and weakened competitiveness.

6.1.3 Municipality-owned port companies

The municipality-owned company (MOC) model is considered the next progression phase for the MOEs. Many of the state owned enterprises have been restructured into State owned companies (SOCs) as a result of progression and the EU ruling. This decision has reflected on the MOEs which have been converted to a MOC when the MOE has potential for a good return on the investment, and is prepared and competent to compete against the domestic private market players or international competition. There may have also been other considerations favouring the change (see Table 6).

Strengths

The strengths of municipality owned port companies include flexibility in decision-making process, business-like management and operating style, and freedom to make agreements and contracts with other parties. There is clearly more dynamics in decision-making and co-operation with the private sector. More flexible salary and reward policy can be also considered as strength. There is an increased transparency in operations and economy due to separation from the municipality. Most of the strong features of MOC's derive from the business model and market-oriented approach. In essence it is the flexi-

bility and freedom of decision making to pursue optimum management, administration, operational efficiency, and financial responsibility. This includes the staffing level and managing the organization like a business and not as a bureaucracy.

Weaknesses

The primary weakness of MOC is the need to pay full value added tax, corporate and other tax liabilities, which the MOE's and the traditional organizations do not have to do currently. The company also has to pay other duties such as capital transfer tax when restructuring into a company. In that sense the transition into a MOC can be a very expensive process for the municipality. Weaknesses also include weaker municipal back-up and the fact that the arrangements of financing with the city are much more limited compared to MOE.

Table 6. SWOT of MOC ports.

S Flexibility of decision making -> faster decision making -> no public complaining processes Independent finance Freedom to make agreements and contracts Business-like management style Easier long-term planning More flexible salary policy	**W** Weaker municipal back-up Liability to pay taxes Arrangements of profit and financing with the city is limited When the city/municipality is the owner -> public procurement rules
O Customer and business orientation Development potential due to business-like operation Co-operation with the private sector is easier Possibility to take business risks / taking advantage of opportunities Flexibility of pricing and rewarding Opportunities for institutional investors Access to capital markets External know-how to the board	**T** Realization of business risks Conflict between owners' will and company's interest Prejudiced/partial treatment of customers Resistance to change in restructuring process Legal incompetence in municipality's decision making

Opportunities

Opportunities include the freedom to operate in the markets, expand businesses when advantageous, purchase and sell companies or portions of the business activity, and customer market orientation. It is also possible to enter into partnerships, joint ventures and take reasonable risks provided they are approved by the board. There is potential for innovation and partnering with other private or public entities to optimize processes, operations and management. There is also an opportunity to bring external know-how to the board and utilize flexibility in pricing and rewarding.

Threats

Threats include of course the realization of business risks as in every company. Failure or conflict between owners' will and company's interest is also a notable threat. The owners control policy over the company must be properly secured before the restructuring.

The threats are as a whole similar to those of the private companies, which include unclear financial position, exposure to markets, unknown risks, exposure to bankruptcy or retreat to the traditional organization form, and the intercession of political will versus corporate decisions. There is also a great fear of privatization, which could lead to the sale to foreign entities that could potentially cause poor service delivery and quality problems. Threats also include the profit seeking nature, which can lead to cutting corners by compromising the service delivery.

6.1.4 Private ports

Fully privatized ports (either industrial ports serving only one client or private public ports serving also external customers) are few in number internationally and in Finland. There are only a handful of ports in Finland that are owned by private companies and industries, the biggest ones including Neste Oil's port in Sköldvik and Inkoo Shipping Ltd, which represents a privately owned public port (see Table 7).

Strengths

The strengths of private ports include maximum flexibility in decision making, financing and port operations. Besides laws and regulations, there is no direct government interference or interest in the port. The port can freely select its customers and activities.

Weaknesses

Weaknesses include at least non-existent municipal back-up and the comparative disadvantage to pay taxes. From the municipality point of view there are several weaknesses including the loss of its ability to execute a long-term economic development policy with respect to the port business, and the port land.

Table 7. SWOT of private ports.

S No direct (local) government interference Maximum flexibility with respect to investments and port operations Ownership of port land enables market-oriented port development and tariff policies In case of redevelopment, private port operator probably realizes a high price for the sale of port land The often strategic location of port land may enable the private operator to broaden its scope of activities	**W** The government (national, regional, or local) loses its ability to execute a long-term economic development policy with respect to the port business In case the necessity arises to redevelop the port area, government has to spend considerable amounts of money to buy back the port land
O Customer and business orientation Development potential due to business-like operation Co-operation with the private sector is easier Possibility to take business risks / taking advantage of opportunities Flexibility of pricing and rewarding Opportunities for institutional investors Access to capital markets External know-how to the board	**T** Realization of business risks There is a serious risk of speculation with port land by private owners Conflict between owners' will and company's interest Prejudiced/partial treatment of customers

Opportunities

Opportunities in this model include the development potential and easier co-operation with the private sector. There are also opportunities for institutional investors. Access to capital markets and flexibility in pricing and rewarding are also notable opportunities.

Threats

In fully privatized ports, the property is privately owned, unlike the situation in other port management models. This requires the transfer of ownership of such land from the public to the private sector. The risk in this type of arrangement is that port land can be sold or resold for non-port activities, thereby making it impossible to reclaim for its original maritime use. Also, there is the possibility of land speculation, especially when port land is in or near a major city. Furthermore, sale of land to private ports may also sometimes raise a national security issue.

6.2 Effects from reform of municipal legislation

The Finnish municipal legislation is going to be renewed again in the near future. These upcoming changes to legislation are going to have significant effects on ports. The reform derives from EU's pressure concerning competition neutrality problems with municipal enterprises operating in competing markets, and it will soon result to renuncia-

tion of the traditional model and MOE-ports. At the moment, ports operate in fully competing markets which gives an advantage position to the ports operating as traditional or enterprise models mainly because of the tax exemption and bankruptcy procedure benefits. Those ports have to be restructured into municipal company model or as private ports. Most of the interviewed ports have already started to plan the soon coming restructuring process. It is going to be a challenge for them, but it also gives the possibility to develop the business operations and improve competitiveness. Most ports see the change more as a positive than a negative thing for them. From a wider perspective the decision of harmonizing the taxation practices and other competition factors is a right one.

The harmonization of the actual port legislation is also a topical, yet difficult challenge. There are only two written port acts in Finland: the one concerning municipal port orders and traffic dues and the other one concerning private commercial ports. Both acts are quite limited by content. Other legislation concerning ports is confused and dispersed. According to the interviews, deregulation or at least simplification of the existing legislation would significantly promote port's possibilities for improving their operations and competitiveness. The legislation on other sectors of transport and communication branches is considerably new and comprehensive compared to the legislation of port operations.

There are several possibilities to develop the port business after the transition. Municipalities have to consider the level of involvement they want to have in the port business. After all, operating in competing markets is not really municipalities' main tasks. One potential option is the landlord-model, which is used particularly for port management widely across the world. From the municipality's point of view, the landlord model means that the municipality will enter into contract with a private sector entity covering certain operations, in most developed case the entire port operations management. Municipality will benefit from the arrangement through steady flow of rental income from the private sector entity (or entities) and through reduced investment and human resources liability. These can have significant positive cash flow and savings impacts in the long run. The advantage of the landlord model is that the assets will remain at the municipality's balance sheet, unless otherwise agreed. This means that the contract will have impact on revenues shown on income sheet, while at the same time the contract will specify required investments that will maintain or increase the value of assets on the municipality's balance sheet.

Also the possibilities of increasing co-operation with other ports and entities are important issues for the near future. Mergers and joint ventures of port companies are ways to reduce costs, make the ports more efficient and competitive, and possibly but not necessarily reduce their number. This also gives the port companies possibilities to specialize their business in certain fields.

The financial research of the project shows that efficient and functioning port is not necessary dependent on the prevailing ownership or governance model. More important factors are firstly the field of specialization of the port and secondly the customer base. It was observed that specialized ports were performing better financially than all-purpose ports. Also the number and type of customers was found meaningful.

Despite the fact that municipalities will lose some money when ports start paying corporation taxes; there are still several benefits for ports moving from the enterprise model to company model. The real benefits come from decreasing of bureaucracy, faster decision making process and the freedom of making different kinds of contracts and agreements with the private sector, and other ports. Nevertheless, restructuring process can be very expensive operation for municipality, mainly because of the capital transfer tax. That is why the restructuring process and taxation issues must be planned carefully. In addition, a challenge to public owners is to consider the possibility of privatizing ports. After all, running business companies is not really municipalities' primary functions.

Municipalities in Finland have enjoyed a steady stream of revenues from the ports, which suggests that whilst the pricing decisions are locally made the overall pricing strategy has been to generate profit for the municipalities. The change from enterprises to companies is not considered to change the prices in a way that would directly reduce the demand for services or the associated revenue even when the taxation of the company is greater than that of the enterprise.

In addition to the administrative and legislative matters, there are also lots of things to be developed in the technical side. A port needs not only a waterway, but also functional ground transport connections, including highways and railroad connections. That is why all major ports should be connected to core network road and railroad connection. This is probably the only way to ensure ports' competitiveness respect to ground transportation. This is how ports' competitiveness could be sustained more efficiently against ground transportation.

6.3 Cooperation and merging opportunities and examples

There are many international examples of co-operation projects and mergers between ports. For example in Sweden, the direct co-operation between ports is in advanced level, compared to other Nordic countries, Germany or the Baltic countries. One respectable example is the port of Malmö. Combined tunnel/bridge project threatened to deprive significant part of the traffic of the ports of Malmö and Copenhagen. Ports decided to merge into a single port company. Copenhagen Malmö Port (CMP) – company's eastern part is located in Sweden and the western part in Denmark. There is also a port merger happened in Stockholm region. The port of Stockholm is a joint venture combining three separate ports, but a common name and administration. These ports on the east coast of Sweden are Stockholm, Nynäshamn and Kapellskär. The collaboration between

Swedish ports is across the board well advanced. There are all sorts of co-operative organizations all over the long Swedish coast line. (Naski 2004)

In recent years the direct co-operation between ports has clearly increased in Finland also. In spite of the tightening competition, sales and marketing cooperation is rather common between nearby ports. In regional level there are many shared interests like shipping routes, fairways and quays, highway and railway connections etc. The most recent example of this closer cooperation is the merger of the port of Kotka and Hamina. The decision has already been made in the city councils. In this market situation the closer cooperation benefits all sides, and ports can expect synergy benefits as a result from the teamwork. This kind of activity is based on the coalitions between neighbouring ports. For example the ports of Pori and Rauma have studied the possibilities of close cooperation or even merger. The study revealed that the best solution for both ports is to merge into a single company. According to the survey, this would emerge Finland's biggest multipurpose port by traffic volumes, and would generate significant cost savings. In spite of the facts, cooperation is still quite undeveloped between the ports.

The City Councils of Kotka and Hamina decided on 8 November 2010 in their respective meetings that the port companies of Kotka and Hamina will merge. The new HaminaKotka Satama Oy will begin its operations on first of May 2011. With this merger, the largest general and export port in Finland will be created in the Kymenlaakso region. Among the 250 ports of the Baltic Sea, HaminaKotka Satama will rise approximately to the 15th position and it will be the third largest container port.

This merger ensures the competitive strength of the Kymenlaakso route and port operations far to the future. The role of the new port company will strengthen in the Gulf of Finland and the Baltic Sea as well as in transports to and from Russia. Decision-making in the new port supports the industrial and commercial activities of the entire region and makes it easier for companies to establish themselves in the region. Resources can be allocated to what is essential, and traffic can be coordinated according to the needs of the customers to optimal locations.

The Managing Director of the new company will be Kimmo Naski and the Deputy Managing Director will be Jan Gran. All personnel will be transferred to the service of the new company as old employees. Operations in the Ports of Kotka and Hamina will continue normally until the beginning of May. Information regarding the progress of the matter will be provided on the Internet pages of the ports. According to the plans of the Kotka-Hamina port work group, the ports would form a new HaminaKotka Port Ltd, and the ownership would be divided: 60% City of Kotka and 40% City of Hamina.

According to survey conducted by consultancy firm KPMG, the future port merger would lead to total cost savings of up to EUR 60 million during the following decade, because the need for port development investments would decrease significantly. With the merger, the Ports of Kotka and Hamina would be able to specialise and boost their transportations with reorganisations.

The clarification reports commissioned by the Kotka-Hamina port work group were completed early in the year as well as in the spring and early autumn. The reports prepared by third-party consultants favour the merger.

To improve the efficiency in the port sector there are several possible ways forward, which would reduce costs, make the ports more efficient and competitive, and possibly but not necessarily reducing their number:

- marketing co-operation,
- alliances and joint ventures,
- mergers of port administrations or the ports themselves**,**
- E.g. Kotka&Hamina, Pori&Rauma, Oulu&Kemi&Tornio and Kokkola&Raahe.

As discussed earlier, due to changes in legislation, the ports in Finland which currently operate under the traditional model or as MOE, will change to a MOC during a period of transition. However, there is a further opportunity to consider broadening the ownership by allowing private sector investors to become shareholders of the newly established company. There are two particular rationales for this:

- Those ports (for example Raahe and Tornio) that already have strong linkages to private sector entities in the region would benefit from additional resources.
- Those ports that have a well-functioning business model and steady revenue stream are likely to attract both institutional investors as well as operators of similar types of ports in Finland and internationally.

The municipality could choose to hold a strategic share in the company or gradually move to full privatisation depending on the choice of the decision-makers. It is recommendable that in cases where the private sector can take over full responsibility of the port operations without potential threat to existing clients and the municipality, the privatisation could be completed over a transition period. As an example, the ports of Malmö, Sweden, and the Copenhagen port in Denmark have a joint management company.

7. Summary and conclusions

Because of the recent economic downturn and the sudden decline of transported goods, ports have not been able to perform as well as in the past. To secure their ability to operate accordingly to current business model, Finnish ports need to improve their operations in order to ensure their competitiveness. Especially ports depending on trade and transport of forestry related goods have been suffering from structural changes of the industry. However it is not likely that the physical number of ports would be smaller in the near future. Ports are important to municipalities in many ways; they create a positive image and a competitive edge with respect to other municipalities. On the other hand, according to our analysis there is interest in the market for private sector actors to enter the business, especially in the case of larger ports. Similarly, for smaller ports servicing mainly a single client the question of maintaining municipalities' interest in the long run becomes questionable. Port operations and their outsourcing should be analysed from the point of view of pure business case to assess the rational for links between local economic actors and the municipality. Some ports generate significant revenue for the municipalities but for some future investment needs and municipalities continued involvement is a challenge.

The number and geographical location of ports is likely to remain as present also in the near future. However, the number of port companies is likely to decline. This is likely to improve technical and economic efficiency according to scale advantages. Mergers have several advantages; no overlapping investments in port structures, equipment and machinery and lower administration costs. There is also potential for improved land use.

In Finland there are private ports that provide services to few major clients; most notable of these are Inkoo Shipping (owned by Arbistock and Finnsementti companies) and Sköldvik (owned by Neste Oil Corporation) ports. There are also several others with small volumes and limited clientele. There are some major ports that service a limited number of clients and would rationally qualify for similar arrangements. Raahe port and Tornio port are best examples of potential for privatisation as the role of the municipality in the service provision is questionable at best.

Restructuring the traditional municipal or municipality-owned enterprise (MOE) port into a municipality-owned companie (MOC) is the way forward in the near future if the traditional model or a MOE are outlawed. Currently the ports that operate under traditional model or as a MOE are operating in the competitive environment with other ports (and other modes of transportation), yet they are exempted from taxation due to their status as municipality-owned enterprise.

There are already some specialized ports in Finland (e.g. Hanko: paper and cars, Turku: passengers, Naantali: Liquid fuel, Vuosaari: containers). According to the financial analysis, specialized ports are also performing well in financially. This suggests that for other ports, especially from the regional point of view, specialization could offer potential for developing existing business model. As an example, the ports in the Gulf of the Bothnia could each specialise into one type of cargo, for example Oulu for containers, Kemi for minerals and mining equipment and Tornio for steel products. Yet for gaining economies of scope, these and some other ports could merge into one location as they are quite near each other.

Financial analyses of ports clearly indicate that those under the municipality ownership generate substantial revenues to municipalities involved, in most cases at the expense of overall performance through compensation paid to municipality prior to the financial statement preparation. This shows in cases where the port has produced a loss on the financial statement, yet the municipality has received a fixed transfer. In the future, as the MOEs shift to MOCs these transfer models need to be reconsidered. It is interesting to note that the private company's (Inkoo Shipping) returns to stakeholders are considerably lower than those of the municipality-owner ports.

Ports have suffered from the economic downturn in Finland. This means that whilst their beta values indicate that they are not directly interacting with market forces, the fact that the volume of trade has declined has had an impact on the net sales and operating profit. During the good years, the best performers have been those ports which have specialised into a certain type of commodity (containers, liquid or in the case of Hanko vehicles). The impact of recession on this trend remains unclear, but should be looked into over the next 2–3 years as more data are available.

The issue of fair competition can soon result in discontinuance of the municipal enterprise model (MOE). Ports operate in fully competing markets which now favor MOE-ports mainly because of the tax exemption and bankruptcy procedure benefits. Corresponding reform of municipal legislation is on its way. In the future, the municipal company model seems to be the obvious solution for this problem. Most of the interviewed ports have considered the option of restructuring into a MOC, but only two (Kotka and Hamina) have already done it. Another issue is the number of ports, which should be governed by the market. However, for the municipalities the port and the economic impact of the port are significant and it is unlikely that any of the ports would be closed by the municipality even in the current economic downturn. For the survival of

the ports the supporting basic infrastructure, superior service, and competitive prices are the keys to ensure that they will remain competitive – and survive. Increasing co-operation with other ports and entities are important issues for the near future.

Vuosaari port in Helsinki is the best internationally comparable example of a Finnish port utilising a landlord model in Finland. Raahe is another port that has arrangements that are partially implementing the landlord model, but most other Finnish ports have arrangements that combine outsourcing of some activities with in-house production of others. These ports are operating according to the "Finnish model", but this offers a lot of potential to move toward internationally acknowledged best practices.

The "Finnish model" is based on tradition of certain operator(s) working in cooperation with municipality, but with arrangements that do not meet the landlord model requirements. In particular in cases where the coexistence is a result of the port supporting few major clients and the supporting services are provided (at least partially) by the major clients or their representatives, profit-making opportunities have limited potential. Such cases require a thorough review of the current partnership and an assessment of opportunities for other service providers to cooperate with the municipality through a genuine landlord model. The landlord model is one of the two concession model variants, which are frequently utilised in international shipping business:

The taxation issue is relevant especially for ports which are operating in the competitive markets, but also for other infrastructure because it may prevent meaningful and efficient consolidation of services, and also help continue the full-nelson grip the labour unions have on the municipal decision-makers. MOE is a good model and step forward, but it should be considered as an intermediate phase. This is due to the fact that MOEs do not have to pay taxes and they cannot go bankrupt which gives them significant competitive advantage and distort the market. Another significant issue that concerns especially the waterworks is that loans from the municipality are interest-only loans (zero coupon bonds). This might cause severe financial problems in the future when infrastructure ages and needs repairs. The third issue which concern all sectors is the amount of maintenance backlog that already has cumulated over the years and will continue to do so if nothing is done to reduce it. Only few municipalities know the condition of their networks and the extent of maintenance and rehabilitation backlog.

Improved asset management and cost awareness are crucial issues in all the sectors. It is important to have the motivation and incentives to acquire cost knowledge and use of modern methods of asset management and pricing. This requires changes in the concept, a change in the way of thinking, about management, governance, and stewardship of the infrastructure networks.

There are several subjects and topics for further study in this field of research. The cooperation and mergering possibilities require more detailed and focused assessment. How the collaboration could be developed nationally and internationally, so the transport chain could be further more efficient. Joint ownership of ports and various

strategic alliances can improve the cooperation between ports. As an example, the ports of Gulf of Bothnia could specialise into various cargos. Another theme to consider is the more detailed economic efficiency/competitiveness study of ports. This should also contain elements of international competitiveness and comparisons to key competing ports in the region.

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