

Privatisation trends at the world's top-100 container ports

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During recent years the role of the private sector in seaports has been greatly expanded. Yet in practice the extent of privatisation in ports can vary significantly, in part due to the different methods employed to bring about private sector participation. This paper identifies and analyses, through a survey of ports, recent trends in regard to privatisation at the world's top-100 container ports. The survey has benefited from, and seeks to extend, an earlier survey undertaken by the International Association of Ports and Harbors (IAPH). Findings suggest that, although the influence of private sector actors in ports is growing, the role of public sector agencies also remains significant.

1. Introduction

The increasing intervention of the private sector in performing a number of essential activities related to the effective functioning of seaports has generally been an accepted trend during recent years [e.g. 1, 2, 3]. However, in seeking to probe deeper into the phenomenon of what has become known as 'port privatisation', certain questions arise that require further investigation [4, 5, 6]. Far from an exhaustible list, these questions might include:

- What is the extent of private sector intervention in seaports;
- Which specific seaport activities do the public and private sector perform;
- What methods of privatisation are used, and what changes does this imply for the role of both the public and private sector, and;
- What are perceived to be the main advantages and disadvantages of these changing institutional arrangements

This paper seeks to tackle these questions using the following approach. First, through review of a survey designed to establish the extent of institutional reform in seaports, undertaken during 1998-99 by the International Association of Ports & Harbors [7]. This survey highlights the split of seaport activities and responsibilities vis-à-vis public and private sector organisations for most of the world's significant ports.

Second, a further survey of seaports is undertaken, this time by Napier University. This latter survey, with a focus on the world's top 100 container ports, identifies the objectives, and methods used by ports to effect privatisation, establishing the share of investments made by

private and public entities over recent years. The survey also considers the perceived advantages and disadvantages, from the port point of view, of increased private sector intervention, identifying the role of the port authority in the midst of ongoing institutional changes.

Findings from both surveys are considered to be complementary. The IAPH survey offered an essential basis and starting point for the subsequent Napier survey, and raised questions and issues requiring further exploration. The Napier survey permitted some of these additional aspects concerning port privatisation to be investigated.

The findings contained in this paper are expected to be of interest to the ports and shipping industry, to investors in ports, to policy makers, and to the maritime research community.

2. Private sector intervention in seaports

2.1 IAPH Survey

During 1999, an IAPH Task Force formed as the Institutional Reform Working Group and headed by Malcolm Ravenscroft, formerly of Associated British Ports (ABP), undertook a major survey of IAPH members [8]. The survey was intended to establish the overall extent of public and private sector intervention in seaports.

The survey enjoyed a very good response rate, with 188 ports replying, equivalent to over 80% of IAPH membership, and demonstrating a consistent geographic regional balance. Most of the world's major ports responded, as well as many medium sized ports.

Specific parts of the IAPH survey, which are reproduced here in a different format, essentially relate to the split or extent of public and private sector intervention in ports with regard of the following three contexts:

- Port organisation
- Port assets
- Port operations

It should be noted that some of the results do not round to 100%. This is probably due to some incomplete responses being received, and is not regarded as significant. Findings from the study were as follows.

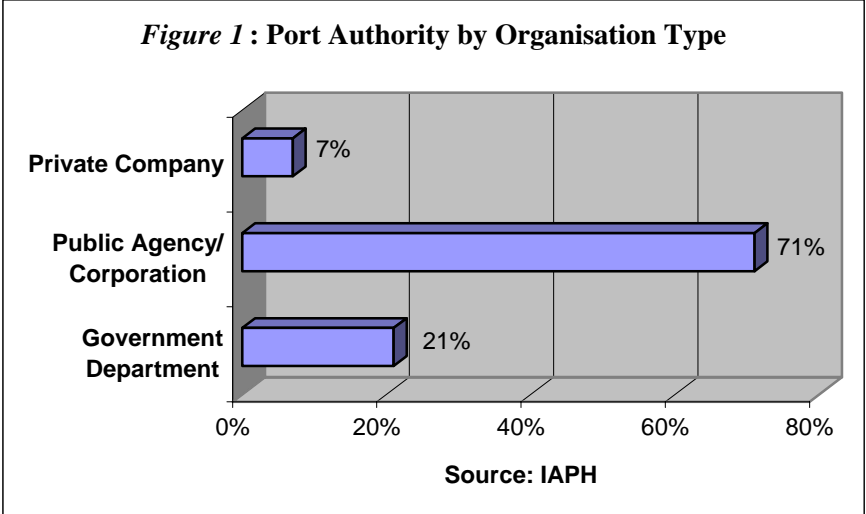
2.2 Port organisation

Some 92% of ports responding to the IAPH survey were public organisations. Of these, 71% were either a public agency or corporation, and 21% were a department of government (Figure 1). Only 7% of ports were private companies, and of these, over two-thirds have a government shareholding varying from 60% to 100%. The overwhelming majority of seaports therefore appear to be in some form of public ownership.

The few private ports where the state does not have a vested interest are primarily in evidence in the UK, where the policy has been toward outright disposal of port property rights, duties, and obligations, to private sector successor companies. Whilst the IAPH survey states that more ports are considering some form of privatisation over the medium term (i.e. over the

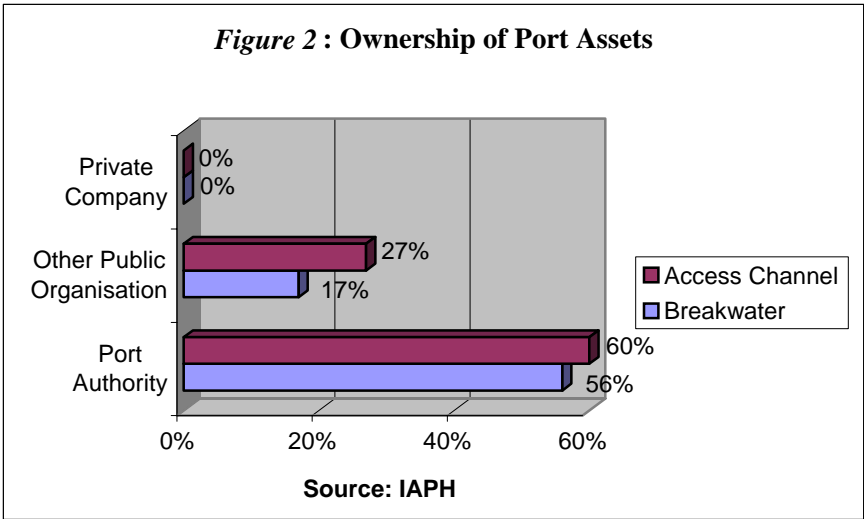
next five years), this is expected to relate to private sector provision of port assets and port services (see below), rather than outright transfer of port property rights as in the UK.

Nevertheless, when considering the undernoted survey findings, it is worth remembering that of the ‘port authorities’ mentioned, 7% are private (or partially private), the remainder public.



2.3 *Port assets*

Figure 2 shows that, in the main, either the port authority or some other form of public organisation owns port breakwaters and access channels. Private ownership of these particular assets on a worldwide basis appears to be, at best, negligible.



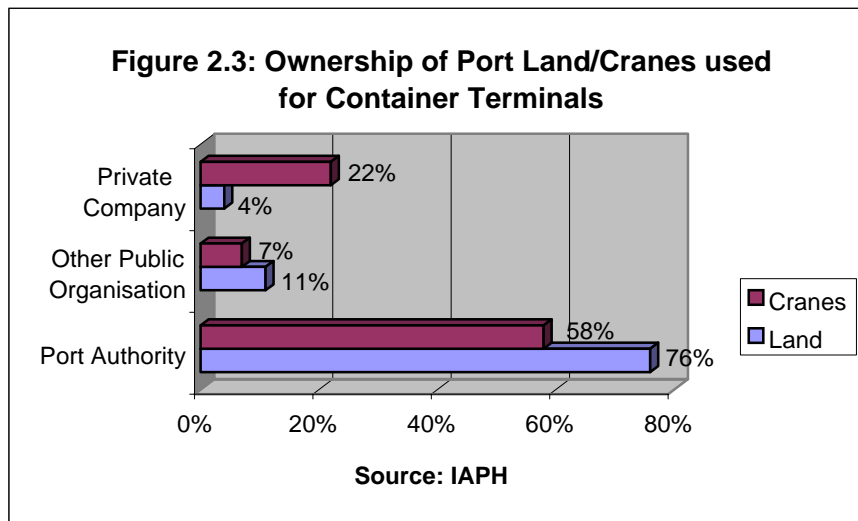
The reason for this may be largely due to the difficulty private companies would tend to have in seeking to recover costs for breakwaters and channels, in addition to the public good nature of such assets (e.g. flood protection).

Analysis of port terminal and crane ownership in the IAPH survey is further broken down into the following three categories:

- Container terminals
- Bulk terminals
- General cargo terminals

With regard to container terminals, almost 90% of container terminal land within ports is either owned by the port authority or by another public body, with only 4% owned by a private company (Figure 3).

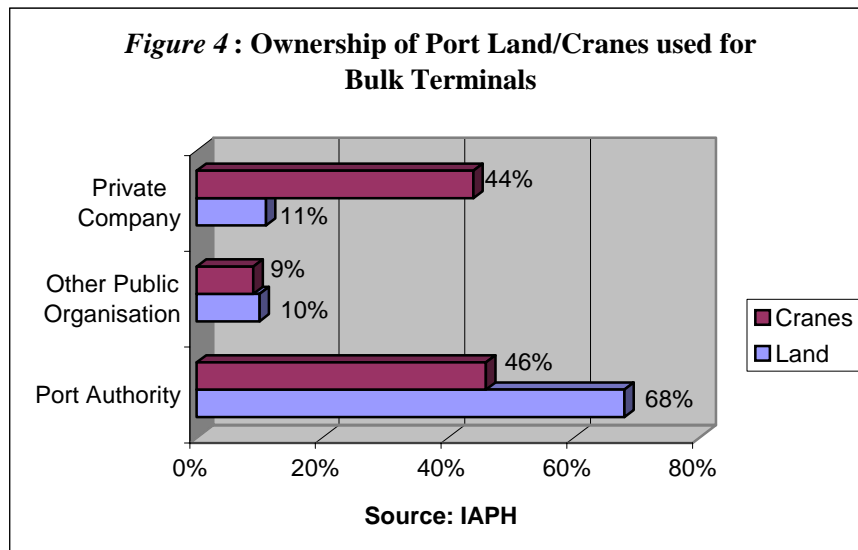
Provision of container cranes is maintained by some 65% of port authority's/public bodies, with container cranes owned by private companies identified at 22% of ports.



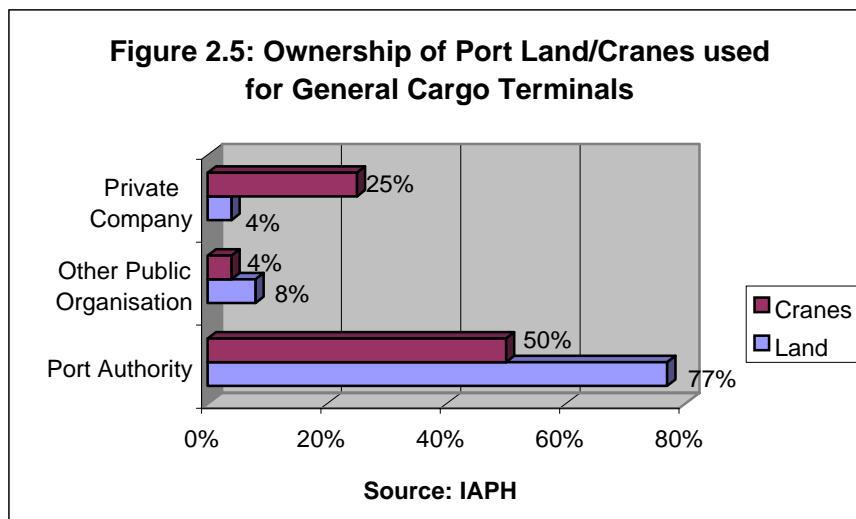
In the case of bulk cargo terminals, port authorities' own 68% of port land, with some other public body owning a further 10%, and private companies owning 11% (Figure 4).

Provision of handling equipment at bulk terminals appears to be more evenly split between the port and private stevedores (55% and 44% respectively).

In the case of general cargo terminals, again the majority of respondents (about 80%) stated such facilities were either owned by the port authority or another public body, with only 4% owned by some other private company.



Port authorities' also own the majority of cranes used in general cargo terminals (54%), with the private sector owning 25% of cranes (Figure 5).



2.4 Port operations

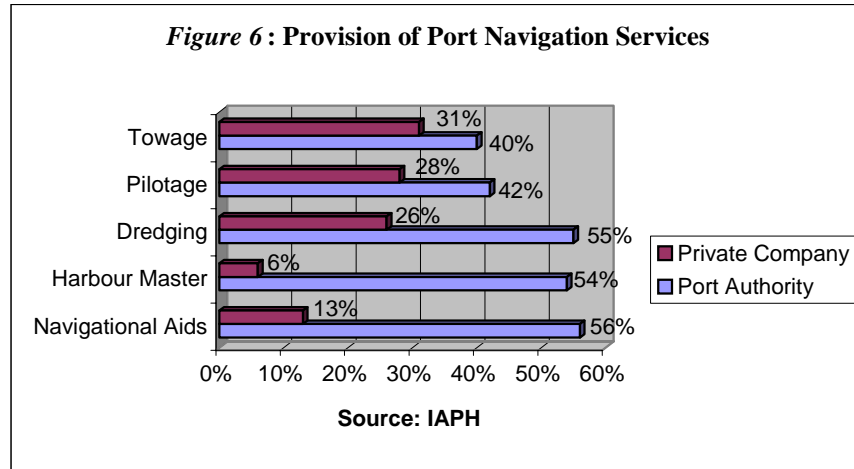
For ease of analysis, evaluation of public and private sector intervention in port services, based on IAPH data, has been split into three categories. These categories are:

- Port navigation services
- Stevedoring services

□ Added value services

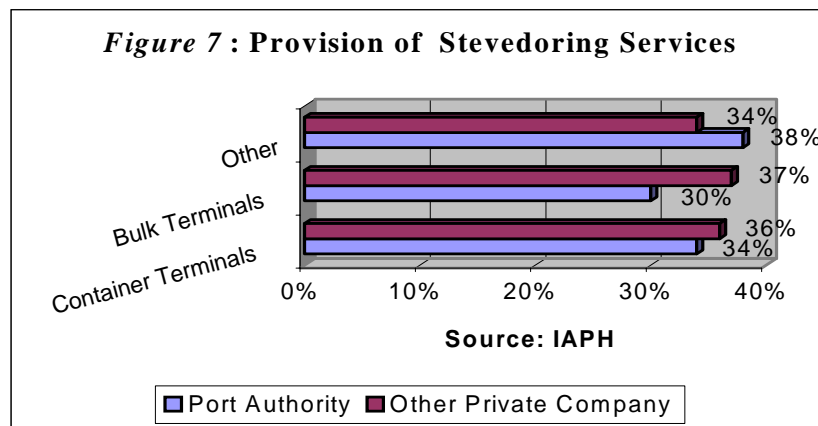
The breakdown of entities providing port navigation services is shown in Figure 6. The port authority (of which to restate, 7% are private, or partially private) provide navigation aids in 56% of cases, the harbour master (54%), dredging (55%), pilotage (42%), and towage (40%).

Private companies provide navigation aids in 12% of cases, harbour master (6%), dredging (26%), pilotage (28%), and towage (31%).

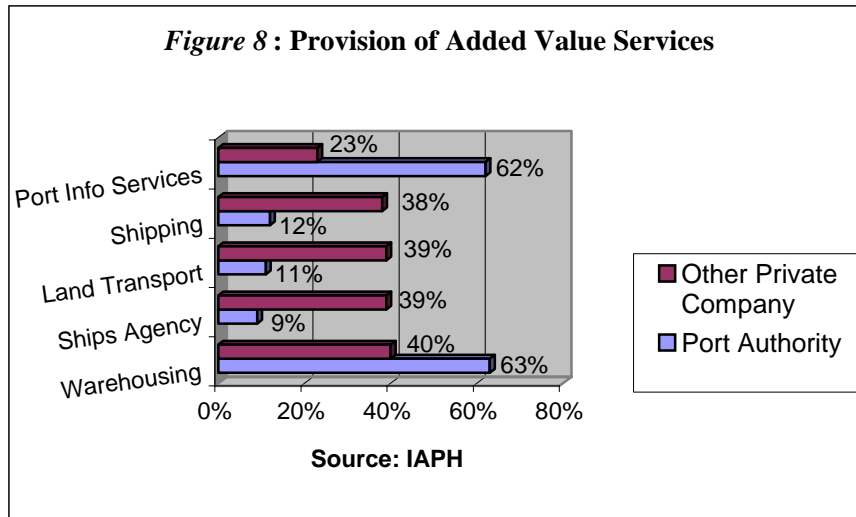


Private sector companies not unexpectedly perform rather better with regard to the share of stevedoring services (Figure 7), although the role of port authorities' is still significant. Of the ports responding, 36% of container terminals are run by private stevedores, with 34% operated by the port authority.

For bulk terminals, private stevedores operate 37%, and port authorities' 30%. For 'other' terminals, port authorities' operate 38%, and private stevedores 34%.



In regard to port added value services, port authorities' have a significant role in providing warehousing and port information services, whilst private companies mostly provide other services such as ships agency, land transport, and shipping (Figure 8).



3. Methods and impacts of private sector intervention in seaports

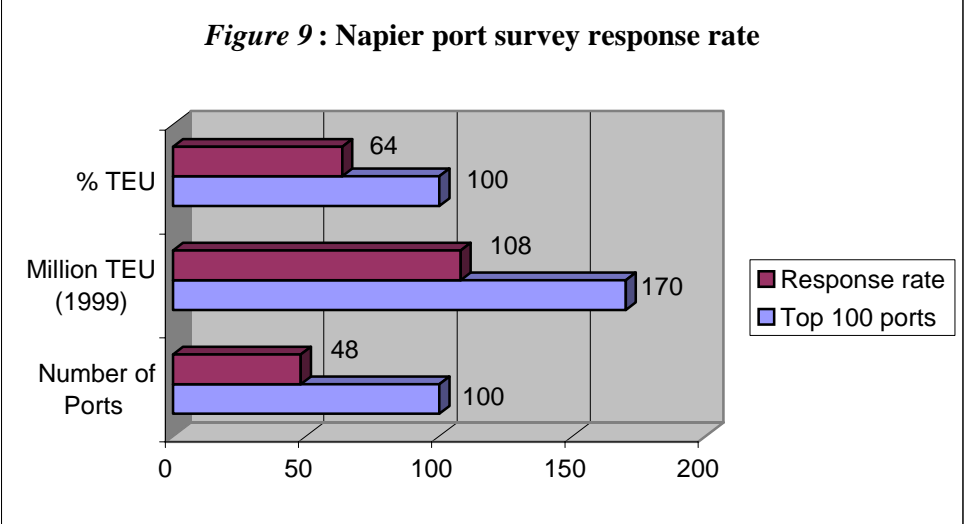
3.1 Napier University survey

The Napier University survey was intended to build on the extensive findings of the IAPH survey, albeit with a more specific emphasis on private sector intervention in container terminals. The aim was to probe a little deeper, to:

- Consider the aims of privatisation;
- Establish the methods of privatisation used, and;
- Assess the split of port investment for the public and private sector.

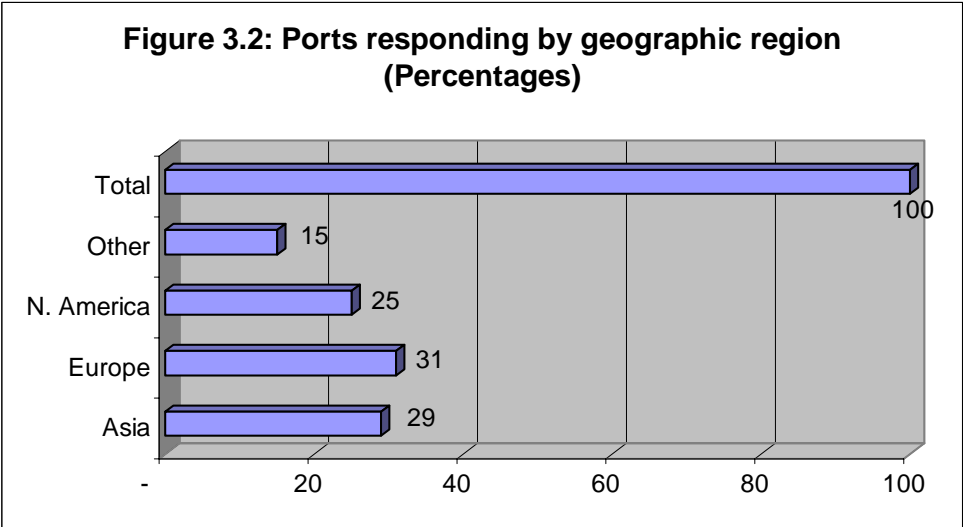
Other aspects considered in the survey included assessing the importance of port labour reform in attracting private investment, identifying some of the perceived advantages and disadvantages of private sector intervention from the port authority perspective, and establishing what the role of the 'new' port authority itself should be.

Each of the top 100 container ports received a questionnaire and covering letter, copies of which are shown as Appendix I. As the top 100 container ports collectively account for an estimated 80% of world container trade, it was thought that an extensive survey of these ports would provide sufficient data upon which generalisations concerning the remainder of the ports population might be made. Inevitably, however, this would depend on the level of response.



Of the top 100 ports, a total of 48 ports returned the questionnaire, resulting in a response rate of 48% (Figure 9). This level of response is regarded as reasonably satisfactory for such a study, and the findings are believed to offer a good indication of the overall picture in the container ports sector. Moreover, the ports that did respond collectively accounted for 108 million TEU in 1999, equivalent to 64% of the top 100 port throughput overall, and equal to approximately half of world container port traffic.

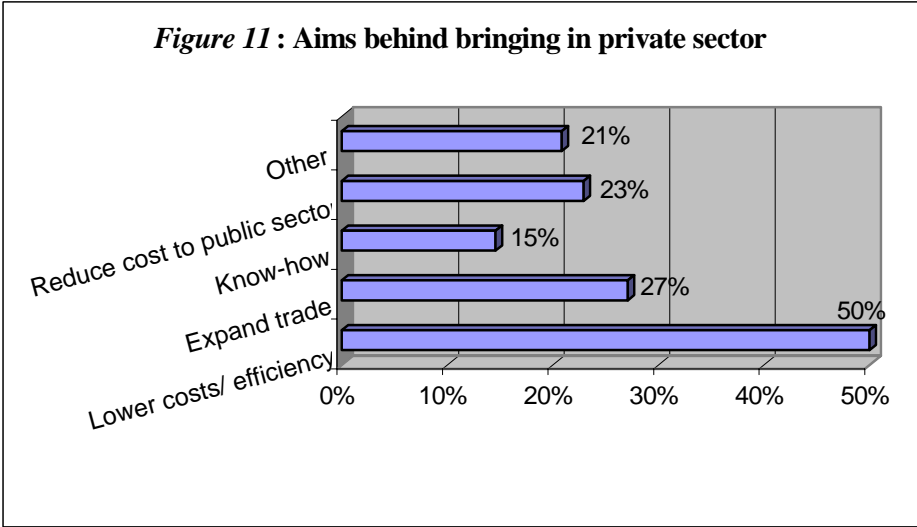
Geographically, the survey responses yielded a balanced return with ports being representative of all the main economic regions (Figure 10). Of the 48 ports responding, 15 (31%) were European, 14 (29%) Asian, 12 (25%) North American, and 7 (15%) from other regions.



The results of the survey are described in the following sub-sections.

3.2 *Aims of privatisation*

By far the most common aim or motivation behind a port seeking to bring in the private sector is to increase efficiency, and consequently to lower port costs, with half of ports (50%) mentioning this factor (Figure 11). Expanding trade as a specific aim of privatisation was mentioned by 27% of ports, and reducing the cost of investment to the public sector by 23%. To obtain management know-how was mentioned by 15% of ports.



A significant 21% of ports mentioned a number of ‘other’ reasons or aims behind bringing in the private sector to operate and/or develop container terminals. These reasons included the speed of developing new terminals, complying with ports and harbour legislation, developing a public-private partnership, and increasing port revenue,

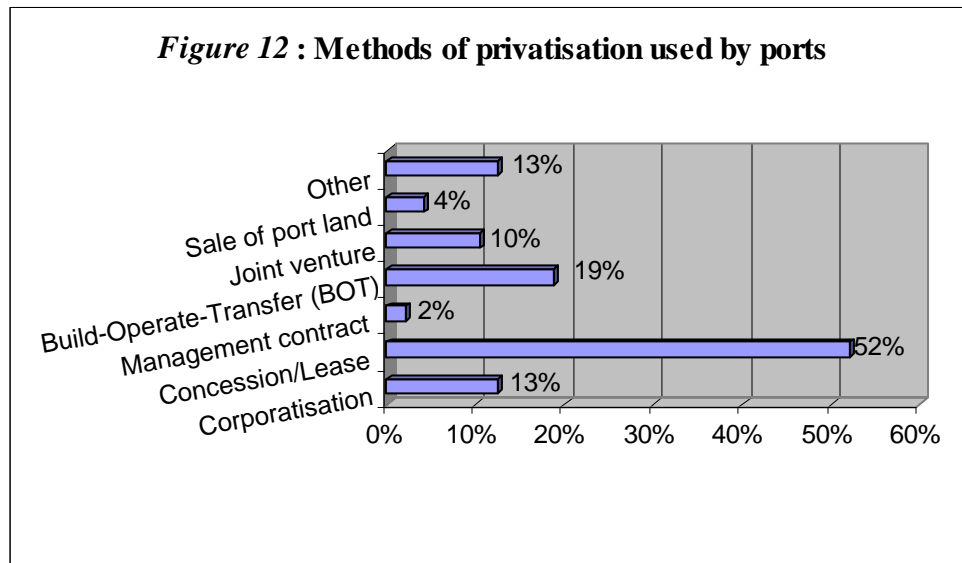
3.3 *Methods of privatisation*

Terminal concessions and leasehold arrangements are the most common methods used by ports to facilitate private sector intervention. These methods have been used by 52% of ports (Figure 12). Build-operate-transfer (BOT) has been used by 19% of ports, joint venture by 10%, and outright sale of port land by 4%.

Corporatisation of a port authority (13%) is generally combined with some form of concession/lease arrangement for terminal operations, with a number of ports mentioning both methods.

‘Other’ methods of privatisation largely relate to shorter-term terminal rentals, or formation of a separate container terminal corporation, which might be wholly or partially owned either by the port authority or by some other public body.

Figure 12 : Methods of privatisation used by ports



3.4 *Public and private sector investment*

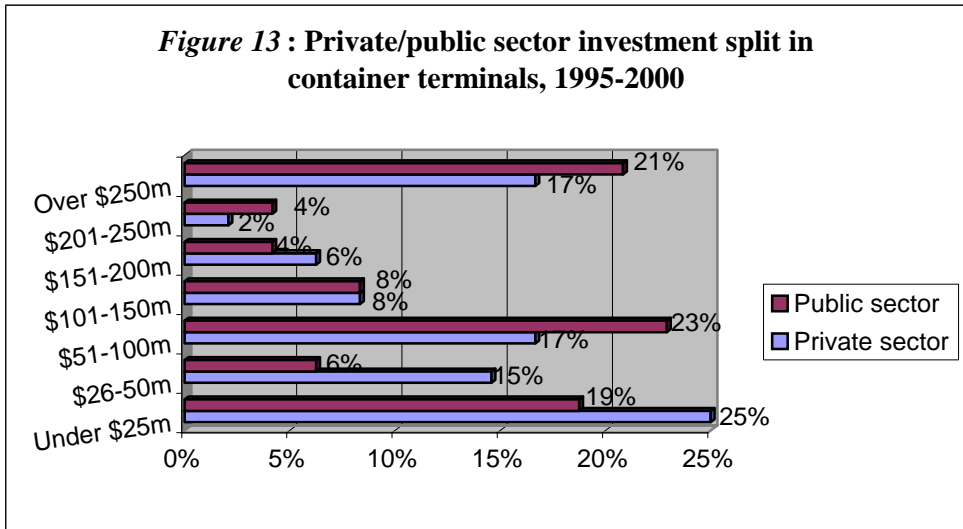
The survey sought to establish the approximate public/private investment split in container terminals over the past five years (1995-2000).

The graph in Figure 13 shows the split of private/public investment covering a range of values from under \$25 million to over \$250 million. Overall, and across all values, the results indicate that both public and private sector organisations are significant investors in port container terminals.

In approximately half of all ports, the level of investment over the last 5 years exceeds \$100 million, for both public and private sector entities, with absolute investments (for both sectors) appearing to be relatively equal.

What the data also indicates is that the public sector matches, and in some cases exceeds private sector investments made in container terminals. Moreover, this excludes the cost of creating basic infrastructure (e.g. dredging, breakwater etc.) which to a great extent is an additional cost met by the public sector.

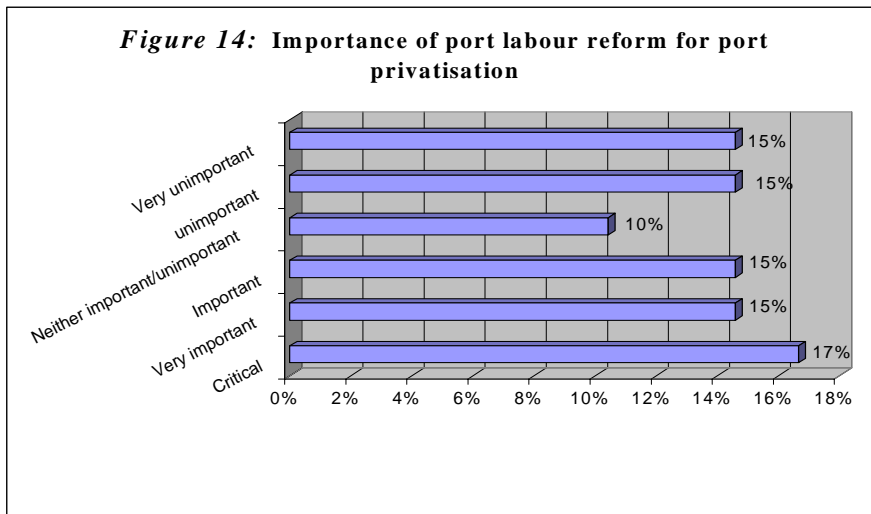
This is not to say that all ports will necessarily have a mix of both public and private sector investment. On the contrary, some ports were found to depend largely on private sector investment, whilst others were the opposite, depending much more on public sector finance.



3.5 Labour reform

Respondents were asked to consider the importance of dockworker labour reform in attracting private sector investment.

Some 17% of ports regarded labour reform as a critical element, with a further 30% claiming it was either very important, or important (Figure 14). Overall, a slight majority of ports considered labour reform to be a significant issue. However, about 40% of ports viewed labour reform to be of rather less significance, mostly comprising those ports at which labour had already been reformed (e.g. the United Kingdom, Italy etc.).

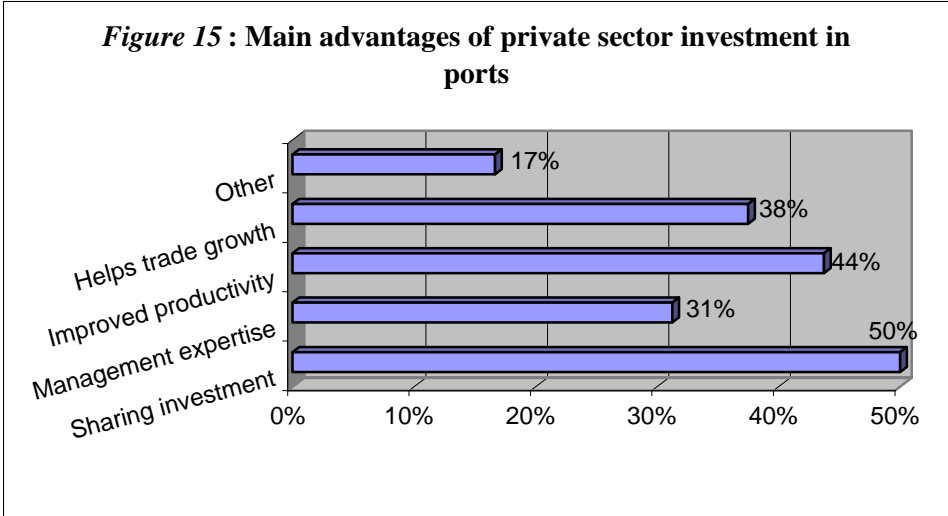


There appeared to be no geographical similarity in regard to this aspect of the study. For example, while some ports in North America and in Asia regarded labour reform as critical, other ports in the same regions viewed it to be rather less important. It is not the aim of this study to consider the reasons for such divergent views, but there is perhaps a need for further research to establish why there are different views within the same regions, albeit in different countries/states.

3.6 *Advantages and disadvantages of privatisation*

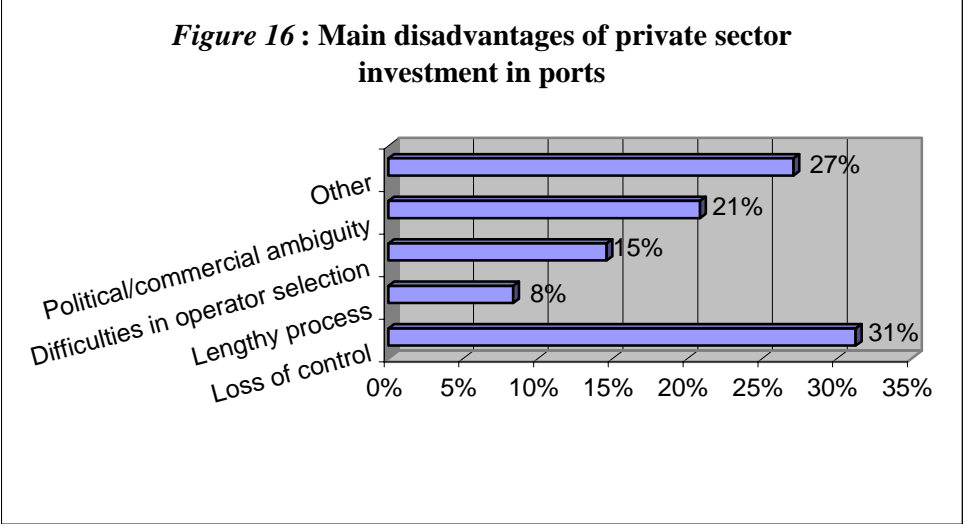
The sharing of investment was considered by most ports (i.e. 50%) to be the main advantage of private sector intervention, followed by benefits gained through improved productivity (44%). Helping trade growth was mentioned by 38% of ports, with management expertise mentioned by 31% (Figure 15).

‘Other’ advantages of private sector intervention given by ports included making terminals profitable, keeping carriers in a port (e.g. where a carrier leases a terminal), competition between terminals (in a port), improved management, and better facilitation of development,



The main disadvantages of private sector investment, according to ports, are shown in Figure 16. Most ports (31%) stated the loss of control as an issue, with 21% mentioning political and commercial ambiguity as a problem. Difficulties in operator selection (15%), and the lengthy process for securing concessions etc. (8%) were also highlighted.

Under ‘other’ disadvantages, several ports stated that they did not perceive any disadvantages with private sector intervention. However, some ports mentioned other disadvantages such as inadequate income for the state, the possibility of an oligarchy developing, difficulties coordinating public and private investments, and the potential for unfair competition or preferential treatment.



3.7 Role of the public sector port authority

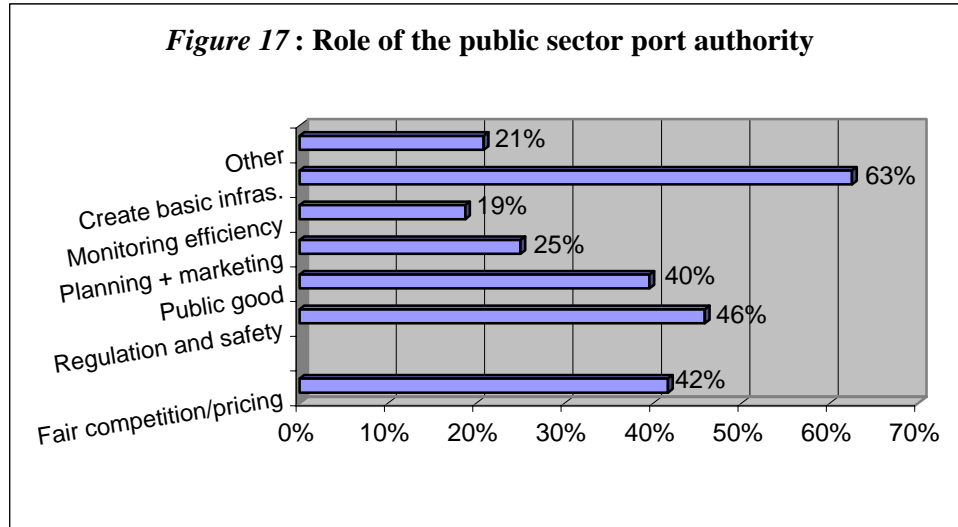
A significant 63% of ports believed that the role of the public port authority should include creating basic infrastructure (Figure 17). Other roles for a public port authority included overseeing port regulation and safety (46%), ensuring fair competition and pricing (42%), and protecting the public good aspect (40%).

The public good aspect of a port might be expected to include flood protection measures, the presence of ‘free-riders’ (e.g. leisure and small craft freely using navigation channels), and protecting the strategic importance of the port to the economy and for national security.

Additional functions a public port authority was expected to undertake included planning and marketing (25%), and monitoring efficiency (19%).

Under ‘other’ roles, where appropriate a public port authority was expected to reflect a regional as opposed to a local viewpoint, to finance terminals and cranes in certain instances, to enhance trade facilitation, and provide property management.

Conversely, the few wholly privately owned ports in the sample tended to criticise the role and indeed the very existence of a public port authority. The main reasons given to justify such a view included the lack of commercial focus, bureaucratic inefficiency, delay, and uncertainty, and a ‘civil service’ attitude, which restricted entrepreneurial development. Curiously, the port stating the latter impediment also argued that the role of a public port authority should include creating basic infrastructure.



4. Conclusions

The IAPH survey highlighted a number of issues with regard to changing institutional arrangements in the context of seaports. The main findings of the study are summarised as follows:

- ❑ The port authority is to all intents and purposes generally a public body, with very few exceptions;
- ❑ The port authority, or some other form of public body, will generally hold title to virtually all port land/terminals and access channels, with very few exceptions;
- ❑ Private companies are increasing their role in providing cargo handling equipment, but the role of the port authority/public bodies in this regard is still significant;
- ❑ The private sector now has a major role in provision of stevedoring services, although the port authority/ public bodies are also significant in this aspect;
- ❑ Provision and maintenance of navigation aids, channels (dredging) and harbour master responsibilities are still largely port authority/public body activities. However, private companies appear to be increasing their role, particularly in pilotage and towage;
- ❑ The port authority/public body is largely responsible for provision of warehousing and port information services, whilst the private sector provide most other port added value services.

The Napier survey sought to build and extend upon the IAPH survey, albeit more specifically in the context of the top 100 container ports. The objectives of the Napier study were to consider the aims of privatisation, the methods of privatisation, and the investment role of both private and public sector organisations over the past 5 years. The Napier survey also sought to probe

some of the advantages and disadvantages of increasing private sector intervention in seaports. The principle findings from this survey were as follows:

- ❑ Lower port costs and improved efficiency (stated by 50% of ports), expanding trade, and reducing the dependence on public sector investment, appear to be the main aims of port privatisation;
- ❑ Terminal concession or lease (52% of ports) is the most common method of privatisation, followed by BOT, joint venture, and terminal rental;
- ❑ Investments in container terminals amongst the top 100 ports appear to be relatively evenly split between private and public sector. However, this tends to mask the reality in that, while some ports do have a mix of public and private investment, others depend mainly on private sector capital, whereas other ports depend mainly on public sector investment;
- ❑ In attracting private sector investment, almost half of ports (47%) consider port labour reform to be either critical, very important, or important, whereas ports at which some reforms have already occurred view this issue to be rather less important;
- ❑ The main advantages to the port of private sector investment are sharing costs (50%), improved productivity (44%), and helping trade growth (38%);
- ❑ The main disadvantages of private sector investment are loss of control (31%), political and commercial ambiguity, difficulties associated with selecting an operator, and the lengthy process this entails;
- ❑ The role of a public port authority is considered to include creating basic infrastructure (63%), regulation and safety (46%), ensuring fair competition and pricing (42%), and the public good (40%).

A key conclusion from this research is that there does not appear to be a single, common, standard approach to port investment/port privatisation. Yes, some approaches or models are used more than others, and particularly the public port authority/private concession or lease arrangement. But, in general, the method used, and the public/private investment split, will depend on a range of factors. Such factors will inevitably include prevailing local/national laws, the local 'way of doing things', the level of demand/supply, and the extent and nature of competition.

However, while the evidence suggests significant involvement of the private sector, especially in port operations and services, this does not detract from the fact that the public sector, in virtually all instances, takes much more than just a passing interest in its seaport system. (For additional reasons supporting continued public sector involvement in seaports see [9, 10, 11, 12]. Whether through a port authority, marine department, or other body, in the vast majority of countries the public sector retains a central role in seaport planning, regulation, development *and* investment.

ACKNOWLEDGEMENTS

I am especially indebted to Malcolm Ravenscroft and his colleagues in the IAPH Institutional Reform Working Group and to the IAPH. Their comprehensive survey of institutional arrangements across the world's seaports acted as the basis for the subsequent Napier survey. I would also like to thank all of the ports that took the time to complete and return my questionnaire. Without their contribution this paper would not exist. My final thanks go to my wife, Lynda, who ably assisted the data collection exercise.

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APPENDIX I (Letter and Questionnaire to ports)

FOR THE ATTENTION OF THE PORT GENERAL MANAGER, MANAGING DIRECTOR, or CHIEF EXECUTIVE

SURVEY ANALYSING TRENDS IN (CONTAINER) PORT PRIVATISATION

Napier University is undertaking a brief survey of the top 100 container ports to further assess recent trends regarding port privatisation. Findings from the survey will be presented at the 5th Annual PDI Financing and Investing in Ports Conference in London, between 18-19th September 2000.

We would respectfully request your valued assistance in this study by completing the short attached 1-page questionnaire and faxing it back to us. The questionnaire is very brief and is expected to take only a few minutes to complete. Port anonymity will be respected as all responses will be aggregated together to present overall findings.

All ports returning a completed questionnaire will receive in due course a full copy of the survey results from Napier University.

We do hope you will be able to assist us in this study and look forward to receiving your completed questionnaire in due course.

Yours truly,

Alfred J. Baird
Head, TRI Maritime Transport Research Group

**ANALYSING TRENDS IN (CONTAINER) PORT PRIVATISATION
(QUESTIONNAIRE)**

PLEASE FAX BACK TO A. BAIRD, NAPIER UNIVERSITY

FAX - OO 44 131 455 3484 (OR 3486)

Name of Port	
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(Please circle your preferred answers)

1. What were the main aims behind bringing the private sector into your container terminal operations?				
Lower costs/ efficiency	Expand trade	Know-how	Reduce cost to public sector	Other

2. What public sector method(s) of privatisation have been used to develop your container terminals?						
Corporatisation	Concession	Management contract	Build-Operate- Transfer (BOT)	Joint venture	Sale of port land	Other

3. What is the approximate total value of private sector investment in your container terminals during the past 5 years?						
Under \$25m	\$26-50m	\$51-100m	\$101-150m	\$151-200m	\$201-250m	Over \$250m

4. What is the approximate total value of public sector investment in your container terminals during the past 5 years?						
Under \$25m	\$26-50m	\$51-100m	\$101-150m	\$151-200m	\$201-250m	Over \$250m

5. How important has been port labour reform in attracting private sector investment for your container terminals?					
Critical	Very important	Important	Neither important nor unimportant	unimportant	Very unimportant

6. What are the main advantages of private sector investment in container terminals?				
Sharing investment	Management expertise	Improved productivity	Helps trade growth	Other

7. What are the main disadvantages of private sector investment in container terminals?				
Loss of control	Lengthy process	Difficulties in operator selection	Political and commercial ambiguity	Other

8. Do you believe that there is a role for a public sector port authority, and if so, why/why not?						
YES (answer below)	NO (Please give reason)					
Ensure fair competition/ pricing	Regulation and safety	Public good aspect	Planning and marketing	Monitoring efficiency	Create basic infrastructure	Other

9. Any other comments	
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THANK YOU