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Role of Port Authorities in Australia, Canada and the European Union

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Abstract

This paper provides a comparison of systems of management and governance within a focus on seaports in Australia, Canada and the European Union. The centrepiece of the research is a survey of port authority representatives and private body managers comparing their attitudes in the area of port strategies and container terminal development projects. The goal of the research is to illustrate regional differences in port policy management. The study compares the level of private sector involvement, areas of control by port authorities, importance of long-term objectives of port policy, and relative advantages of private sector investment seen by port management representatives in Australian, Canadian and European ports. Due to the concentration of container shipping activity within a relatively small number of ports, the approach of the validation is case study based. Through coverage of a large proportion of container activity within the survey, this paper offers an important disaggregate approach in the qualitative analysis of regulatory systems in ports within and across regions.

1. Introduction

The maritime industry is characterised by a high degree of complexity. Most ports are managed by port authorities with different levels of state control (Cullinane & Song 2002). These are mostly separate bodies that run the port on behalf of government, being responsible for port management and governance (Verhoeven 2010). Port authorities (PAs) have developed through different types of privatisation, commercialisation or corporatisation process throughout the 20th century, generally remaining controlled by government at federal, state or local level (Brooks & Cullinane 2007). With the boom in containerisation in 1980s and 1990s, along with the globalisation of production and distribution, the market power of private players such as shipping lines and terminal operators increased. The process resulted in the reduction of PA influence (De Langen 2007).

In the course of their research over the past decade, Brooks and Pallis have identified a serious gap in the volume of research devoted to managerial decision-making in the port studies in general and by PAs in particular, and this work will be published in the next year (Brooks & Pallis 2012). This research intends to fill a part of this very large gap.

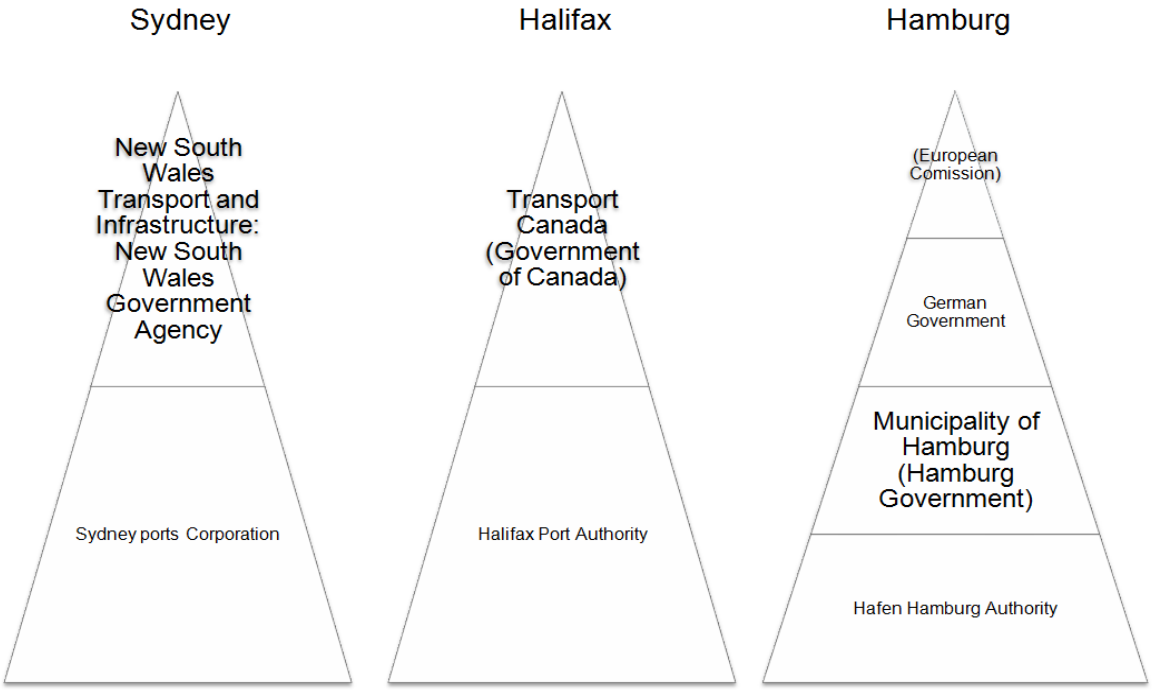
In recent decades, the maritime sectors in Australia, Canada and the European Union (EU) have undertaken reforms of port and transport policy, especially in the field of management of public PAs and their objectives. In general, the goal of state authorities is to take measures supporting the long-run efficiency and competitiveness of ports as key elements of intermodal transport chains (World Bank 2007).

Linking port governance and performance is highly difficult, and only a few scholars have conducted research in this field leading to significant outputs (Brooks & Pallis 2008). A critical missing element is a gap in our understanding of how the efficiency of external factors such as the geographical location of ports, their physical constraints (e.g., tides, depth), political culture and historical infrastructure development patterns affect the performance of ports.

The key objective of this research is to perform a comparison of port samples for three different economic areas (Australia, Canada and the EU). This paper sets the context for this research by comparing policy and decision-making structures in the evolution of port development strategies.

The primary difference between Australian, Canadian and EU ports is, in general, the number of government levels relevant to port policy and its implementation. In Canada, legislation specifies that ports remain the sole purview of the Government of Canada. In Australia, ports are mostly governed at the state level. At the federal level, general fair trade rules and policy via the Australian Competition and Consumer Commision are applied and promoted to prevent unfair competitive behaviour by key parties in the port industry (i.e., stevedores and shipping lines). For the EU, the European Commission's impact on port governance is restricted to setting the standards for state aid, competition or certain types of EU regulations concerning safety and environmental protection standards. For example, consider the comparison of Port Botany (Sydney Ports), Port of Halifax and Port of Hamburg illustrated in Figure 1. For Sydney Ports, the federal role as a port governance party is not shown at all. In Port of Halifax, the role and activity of Canadian Federal Government is much more critical. On the contrary, the key responsibility for port policy and its implementation in Hamburg is in the hands of Municipality of Hamburg with Senate of Hamburg being its executive main body (the varying importance of different bodies regulating and administrating ports is graphically illustrated by relative font size).

Figure 1: Port regulatory and administrative structures – Australia versus Canada versus EU



Source: Authors.

We now turn to a description of the methodology used in the study, which is followed by a summary of port structures in Australia, Canada and the European Union, in Sections 3, 4 and 5, respectively. Section 6 presents the results of the empirical survey, whilst Section 7 concludes the discussion by synthesising the findings of both the comparison of port structures and the empirical results.

2. Methodology

To obtain the data necessary for an informed analysis, regional, national and European governmental bodies, port authorities´ web pages and port authorities´ top managers responsible for transport policy planning and evaluation were selected as data resources.

2.1 Concept

The paper uses qualitative case-based research. The comparative case study approach was selected as an appropriate method focusing on field research and is motivated by goals of defining new theorys or contributing to incomplete theories in a given field (Eisenhardt 1989; Woodside & Wilson 2003).

PA representatives and top management of private companies governing ports and port development were identified as the appropriate units of comparison. With port policy and port administration attitudes being the subject of the study, the ports within the study were selected fulfilling two criteria:

- The port´s share (by twenty-foot-equivalent (TEU)[1] volume) in international container traffic within the target location[2] including the maritime leg and any existing container terminal development projects in the port.
- Existence of private companies or public organisations (PAs) responsible for port development strategies and their implementation.

Table 1 summarises the selected ports for each region in the study. The table shows the five selected ports per region in the study (Australia, Canada and the EU). The relevance of the choice of ports within the study for all three regions is supported through a relatively high coverage of each region´s container traffic within the ports selected.

Adelaide, Brisbane, Fremantle, Melbourne and Sydney account for more than 94 percent of Australia´s marine container traffic. In the case of Canada, the ports selected for this study account for 92 per cent of the container traffic handled by Canadian ports (significant volumes of Canadian container traffic are handled by U.S. ports and *vice versa*). In the case of the Czech Republic, the selected ports count for more than 97 per cent of containers and cargo originating overseas or having its destination in the country (transported by sea), with the Port of Hamburg having an almost 50 percent market share. For instance, Port of Koper, in terms of total volume of containers handled by ports is less important than Antwerp at the European level, though it is more important for containerised cargo exports and imports to the Czech Republic, counting for an 8.5 per cent share (Široký 2010). Since the survey presented here is focused on port investment strategies in the field of container terminal development projects, having Sydney, Nova Scotia (NS) included in the set of selected Canadian ports is beneficial. Sydney´s container port development project is in a preliminary phase; there are no movements of containers in the Port of Sydney at present.

[1] A twenty-foot equivalent unit represents the volume of a 20-foot-long container (6.1m length).
[2] For EU ports in the study, the top five ports for containerised cargo exports and imports for the Czech Republic were selected.

Table 1: Comparative study cases – selected ports: selection criteria illustration, case study credibility

Country	Port	Total TEU throughput (millions, 2010)	Port´s share (%) of the Australia´s marine container traffic
Australia	Adelaide	0.27	4.5
	Brisbane	0.34	5.6
	Fremantle	0.61	10.1
	Melbourne	2.33	38.8
	Sydney (NSW)	2.12	35.3
	TOTAL	5.67	**94.3**
Country	Port	Total TEU throughput (millions, 2010)	Port´s share (%) of Canada´s marine container traffic
Canada	Halifax	0.44	8.3
	Montreal	1.33	28.2
	Saint John	0.05	1.0
	Sydney (NS)	0.00*	0.00*
	Vancouver	2.51	54.4
	TOTAL	4.34	**91.9**
Region	Port **	Total TEU throughput (millions, 2010)	Port´s share (%) of the Czech Republic´s marine container traffic
European Union	Antwerp	8.47	2,9
	Bremerhaven	4.87	21.0
	Hamburg	7.91	47.1
	Koper	0.48	8.5
	Rotterdam	11.15	18.1
	TOTAL	***	**97.6**

* No movements of containers in the Port of Sydney (Canada) at present

** Top 5 container ports for exports and imports from the Czech Republic including the maritime leg of transport

*** Total throughput of the seaports is irrelevant (the Czech Republic is land-locked).

Sources: BITRE (2009); Containerisation International (2011); Port Authorities annual reports; Statistics Canada (2008); Široký (2010), Transport Canada (2010); Zondag et al. (2010).

2.2 Research questions

The survey questionnaire applied in this study was distributed to port authorities and private bodies managing the selected ports. Data were collected in the period from May 2010 to April 2011. In the case of Canadian ports, the survey was supported by structured interviews by phone or in-person with port top managers recapped in Section 4. Table 2 provides the overview of functional characteristics of interviewees in the selected ports (presented by region for privacy purposes).

Table 2: Comparative case study – overview of selected ports and respondent roles

Country / Region	Port	Port Administration (Company Name)	Respondent Roles (by Region)
Australia	Adelaide	Flinders Ports South Australia	CEO Executive General Managers of Business Planning and Industry Relations and Logistics, General Manager of Port Operations Management
	Brisbane	Port of Brisbane Corporation	
	Fremantle	Fremantle Ports	
	Melbourne	Port of Melbourne Corporation	
	Sydney (NSW)	Sydney Ports Corporation	
Canada	Halifax	Halifax Port Authority	Chairman, Deputy Harbourmaster, Director of Strategy Development, Manager of Economic Development, Senior Vice President
	Montreal	Montreal Port Authority	
	St. John	Saint John Port Authority	
	Sydney (NS)	Sydney Port Corporation	
	Vancouver	Metro Port Vancouver	
European Union	Anwerp	Anwerp Port Authority	CEO, General Manager, Head of Strategic Planning Department, Information Specialist for Strategy and Development, President of Management Board
	Bremerhaven	Bremen Port Authority	
	Hamburg	Hamburg Port Authority	
	Koper	Luka Koper	
	Rotterdam	Port of Rotterdam Authority	

Sources: Survey questionnaire; interviews with ports representatives; ports' web sites.

The empirical survey presented here is targeted at answering three questions in the area of port development strategies:

1. Are port policy and port development strategies different between and within regions?
2. Do port administration entities consider themselves as independent when implementing port policy strategies?
3. Are there regional differences in terms of top management attitudes toward the extent of control of port operations by port authorities?

The results of the survey are discussed in Section 6, following a region-by-region discussion of the operational contexts for ports in Australia, Canada and the EU.

3. Ports in Australia

One common issue concerning container traffic across Australia and the EU is the repositioning of empty containers being loaded or unloaded inland. According to the Bureau of Infrastructure, Transport and Regional Economics (BITRE 2009), out of a total of 5.7 million TEU moved through the five mainland ports in the study (Melbourne, Sydney, Brisbane, Adelaide and Fremantle) in 2009, approximately one-quarter of outbound traffic consists of empty containers. Reflecting the similarity of inland infrastructure (roads and railroads) to the Canadian market, transport by rail (port´s modal split for rail), is in general higher compared to most European ports. The competitive advantage of railroads is given by much lower unit transportation costs compared to road haulage (BITRE, 2010) based on longer freight train length overall and, where possible, the use of container double-stacking. Due to geographical and historic reasons in Europe, this concept cannot be applied in the EU.

It has been reported (Everett & Pettitt 2006) that while the shipping industry and operators have welcomed moves to advance long-term planning for Australia's ports, there is so far no agreement on what function the Commonwealth government should perform. In Australia, federal and state governments and their agencies for states such as New South Wales, Victoria or South Australia have common roles and functions (BITRE 2004, 2009). By comparison, in the EU the basis for policy law and objectives is provided by institutions distinctly at the national government and local authority level, along with supra-national objectives given by The European Commission.

There are over 25 major ports in Australia; mostly managed, regulated and operated by government-owned port corporations in each state and the Northern Territory. This concept makes Australian governance more comparable to the U.S. and almost completely the opposite of Canadian governance. Legislation for ports is a state or territory matter and legislation is not uniform across Australia. Australia's port models can fit into two categories (Pettitt 2007); a corporatised government-owned company (in Tasmania), and a corporatised statutory state-owned company (as in NSW, South Australia, Victoria, Western Australia and Northern Territory).

Sydney Ports' (Port Botany) expansion project represents an important example of the scope of port development projects in Australia. Port Botany is governed by Sydney Ports Corporation (SPC) and is the most important port in Australia in terms of inbound marine container traffic (Sydney Ports Corporation 2010). Controlled by the New South Wales government with respect to management, SPC is financially responsible for the project of the expansion of Port Botany. The project, centring on expanding port container facilities to keep up with forecast long-term container shipping growth, is scheduled be completed by 2011. The expansion, by reclamation of land with increased water depth at berths to 16.5 metres, makes the port eligible for the discharge of container vessels with capacities over 10,000 TEU. This would increase Port Botany's container terminal capacity by 1.7 million TEU, at a cost of approximately AUD 1 billion (Sydney Ports Corporation 2007).

4. Ports in Canada

In Canada, port policy is the sole preserve of the federal government. Port reforms were initiated in the mid-1990s; the main driving force of the process was the federal government's inability to sustain a fiscal situation characterised by continuously increasing debt and budget deficits. Based on political decisions, 19 seaports were categorised as Canada Port Authorities (CPAs); a subsequent merger has reduced the number to 17. CPAs are regulated by the federal government (Brooks 2007). CPAs' ports are required to meet all the requirements set by the Canada Marine Act 1998. Every CPA has to operate as a financially self-sustaining, autonomous commercial organisation without recourse to the federal government and its budget. The only port selected for Canada in this study that is not a CPA is Sydney, which is owned by the Cape Breton Regional Municipality. The port's biggest challenge, in terms of its organisation, is the implementation of an efficient governance model for its board of directors reflecting the interests of all relevant stakeholders (Sydney Ports Corporation Operations Manager Interview, 18 April 2011). Only four of Canada´s ports (Vancouver, Montreal, Halifax and Prince Rupert) have substantial container traffic operations; 98 percent of the container traffic handled at Canadian ports is handled by these four ports (Transport Canada 2009).

By far, the country´s busiest container port is Metro Vancouver counting for more than 50 per cent of Canada's maritime container traffic. Both Metro Vancouver and the Port of Prince Rupert on the Canadian West Coast are CPAs, and there is pressure on both to improve their performance in compliance with the current regulatory environment and strengthen their cooperation in terms of security and environmental protection (Metro Vancouver Deputy Harbour Master interview, 19 April 2011). The three Metro Vancouver container terminals are managed by different container terminal operators, with the Delta Port container terminal being the most important one in terms of volume. Metro Vancouver's container terminals are jointly characterised by average turnover of 10,000 TEU/acre/year. The challenge the port faces is increasing its capacity. The investment plan for a new container terminal (Delta Port Terminal 2) is in its preliminary phase. The port itself is capable of discharging the container vessels with capacity of 18,000 TEU[3]. On the other hand, there are hinterland issues of congested roads and insufficient rail network capacity. To finance the expansion of container operations, the port recently introduced a new fee collected for capital investment in port owned areas, directly related to port supply chain management not under port jurisdiction. The program was developed to enable development of rail crossings and bridges.

The second most important port in Canada is Montreal with a container capacity of 1.6 million TEU. A development project related to expansion of container operations is in its preliminary phase. The "Contrecoeur Terminal" is expected to increase the capacity of all container terminals in Montreal to 3 million TEU by 2020. The primary challenge the port faces is financing. The preferred financing option is a Public-Private Partnership (Montreal Port Authority, Director Strategic Affairs interview, 13 April 2011). There is dry bulk land available in the port to be repurposed for increasing container traffic capacity. The port´s container terminals turnover is 29,000 TEU/acre/year, making Montreal the most dense port in North America. The port´s container traffic density is comparable to those located on the North Sea in Europe (Rotterdam, Hamburg, Antwerp). Montreal PA representatives consider the Port of Norfolk (in Virgina, U.S.) its primary threat, as they are building a new rail network and infrastructure to attract Montreal´s cargo. In their opinion, the position of Halifax as a competitor is limited because of smaller local cargo demand there. The port operations are well balanced in terms of inbound versus outbound traffic, with container ships being fully unloaded and loaded (unlike in most other container ports). On the other hand, the position

[3] The order of ten 18,000 TEU capacity container ships was made by Maersk Line at Daewoo Heavy Industries with expected deployment in 2014.

of Montreal is weakened by its capacity limitations in terms of vessel size[4]. This limitation results in the absence of a direct Far East – Montreal via Suez Canal maritime shipping connection. Rather, the Port of Montreal´s main function is acting as a transhipment hub.

In case of Sydney, Nova Scotia, which has no container traffic at present, the development of a new container terminal is in a preliminary phase. The main issue for the project is insufficient financial resources (by leases or tax imposing), limiting the ability to develop the port and generate revenues. The only sources of revenues are coal terminal turnover and a recent commitment by the federal government to finance dredging operations (total project costs projected to CAD 30 million); the port does not generate enough revenue to cover port security costs and investment needs. To construct a new container terminal, Sydney Port Corporation (the port authority) needs to find a financing partner on a PPP basis. If the project of container terminal is completed (with estimated costs of CAD 200 million, excluding rail network construction), Sydney will be one of several Eastern North America ports (together with Norfolk and Halifax) capable of discharging vessels with a capacity of 12,000 TEU. Sydney is not the only entity well aware of the investment opportunity in the shipping market in Nova Scotia for the trans-Atlantic route in the future. Melford International Terminal Inc. (a private company) is planning to build a port container terminal in the Strait of Canso, having similar comparative advantages as Sydney, but at a projected cost of twice the level of Sydney's development. The company is struggling to find a financing partner for the project, as well.

Regarding the construction of new sites or expansion of container terminal operations, there are no major investments projects planned in either Halifax (Port of Halifax Authority, Manager of Economic Development interview, 12 April 2011) or Saint John (Saint John Port Authority, Vice President, Infrastructure department interview, 16 May 2011). Both ports are currently characterised by a relatively low utilisation ratio in terms of container terminal capacity[5]. Port of Saint John is mostly specialised in dry bulk and liquid cargo transport with relatively limited market position in container shipping. There is only one shipping line providing feeder service between Port of Saint John and the Caribbean. In the opinion of Port of Saint John representatives, there is capacity and possible demand for other shipping lines providing feeder services, especially for trans-Atlantic routes (Europe – East Coast U.S. and Canada).

5. Ports in the European Union

In general, container flows in the EU suffer from a rising imbalance in European container transport chains between the range of ports from Hamburg to Le Havre and Far East ports (e.g., Shanghai, Tianjin, Ningbo, Hong Kong, Shenzhen). The current imbalance is estimated at 60 percent in favour of westbound container flows (with full containers originating in Far East; Zanuy 2009). This represents approximately 10 per cent of worldwide container traffic; the imbalance is expected to cause significant problems, especially in the case of the European highway network, including escalating greenhouse gas emissions and traffic congestion.

Due to the global financial crisis and the corresponding reduction in transportation demand overall in 2008-2009[6], the motivation for developing long-run solutions to these problems has been postponed; however, the necessity of solving these problems remains.

The private sector, shipping lines and multimodal transport operators in particular, are aware of the rising problem, trying to solve the issue by taking mid-term measures including:

[4] Container ships with a capacity of up to 4,000 TEU can be discharged in Port of Montreal.
[5] Port of Saint John has a container terminal with capacity of 100,000 TEU handling only approximately 50,000 TEU in 2010 (utilisation ratio of only approx 50 per cent).
[6] Containerisation International, Journal of Commerce, other specialised press articles.

- Development of hinterland container yards, container depots and inland repositioning hubs.
- Increasing the number of ports-of-call (multi-ports-of-call strategy).
- Promoting an increase in store-door transport, enabling reductions of containers in container yards, streamlining flows of container traffic and lowering total warehousing costs.[7]

These business-oriented measures have bought time in response to the effects of the global financial crisis, but it will be insufficient when powerhouses such as the EU recover economically.

The importance of hinterland connections is much higher in the EU than in Australia. This fact is based on different geographical conditions and a different spatial relationship of main economic areas. In Australia, generally, most cargo is shipped within 50-100 km of port areas. In Europe, many inland economic centres (e.g., Vienna-Bratislava, Central Germany, Madrid) are located well beyond that distance interval (Notteboom 2009).

The level and ability of port authorities to force or influence the utilisation of hinterland transport infrastructure is indirectly linked to two factors: the ownership of container ports and terminals, and port-related activities across authority functions (i.e., the governance structure of ports). In the case of port ownership, four basic ownership models can be distinguished with respect to port privatisation policy and practice (Cullinane & Song 2002; Everett 2007):

- Public status (e.g., Shanghai, Melbourne, Sydney, Brisbane)
- Public prevailing and private characteristics and functions (Hamburg, Antwerp, Bremerhaven, Rotterdam, Sydney, Vancouver, Saint John, Halifax, Montreal, Sydney in Nova Scotia)
- Private prevailing and public characteristics and functions (Hong Kong)
- Private (Koper, Adelaide).

In the case of European ports, a model of port infrastructure public ownership and management with several commercial characteristics and market-oriented driving forces (Wiegmans et al. 2002) is usually implemented. This fact is based on historically different development of property ownership in most European countries compared to Australia and Canada.

In the EU, the main driving forces of efficient port utilisation, in general, originate in the public sector (EC 2001, 2007; Paixão & Marlow 2001; Pallson & Bengstsson 2008; Psaraftis 2005; Steer Davies Gleave 2009; Tsanboulas et al. 2007). For example, Marco Polo projects are being integrated as part of the Trans-European Network – Transport (TEN-T) specified in the EU's Common Transport Policy (CTP), but with 6 per cent of TEN-T funds designated for intermodal or port projects for 2007-2013[8] only.

The Marco Polo programme is the EU's funding mechanism for projects shifting freight transport imported or exported by seaborne trade from the road to short-sea, rail and inland waterways. It is an integrated part of the CTP. The EU body responsible for developing CTP objectives is the European Commission, whilst the authority responsible for the selection and implementation of projects is the Trans-European Transport Network Executive Agency. The second period of the program (Marco Polo II), running from 2007 to 2013, includes a budget of €450 million; these funds are designated for projects both within EU borders and in countries intending to become EU member states (e.g., Croatia). The long-term primary

[7] Global key customers of shipping lines (e.g., DHL, NYK Logistics), based on goals of warehousing cost reductions, tend to use container yards as their warehouses.
[8] The Trans-European Transport Network Executive Agency, http://tentea.ec.europa.eu/en.

concerns of the programme are a reduction in traffic congestion on the EU's road network and the promotion of environmentally-friendly means of transport.

The Maasvlakte 2 expansion project at the Port of Rotterdam is a useful example of port development strategies and projects in EU. The project involves the reclamation of 2000 hectares of land, extending port operations in container transport by 630 hectares, and another 370 hectares of other new industrial sites. Construction in the project started in 2008, with first new container scheduled to be handled in 2013. Rotterdam will be one of a very few European ports capable of accommodating 18,000 TEU container ships by 2014. The Rotterdam PA bears the costs and risks of construction, whilst the Municipality of Rotterdam is the party supporting related construction (e.g., nature and recreation, urban development). Between 2013 and 2033 the land reclamation process will create capacity for an additional 17 million TEU. The first two commercial contracts were signed with clients in the new Port of Rotterdam area (Port of Rotterdam Authority 2011). The first contract is between Consortium of Dubai Ports World (terminal operator) and four shipping lines (Mitsui OSK Lines, Hyundai Merchant Marine, APL Neptune Orient Lines and CMA CGM) are developing Rotterdam World Gateway Terminal at Maasvlakte 2 with a projected capacity of 4 million TEU (in operation by 2013). The second contract involves the container terminal operator APM Terminals (AP Møller Maersk subsidiary) providing dedicated services to Maersk Line, offering a capacity of 4.5 million TEU by 2014.

With the comparison of container ports in Australia, Canada and the EU complete, we now turn to the results of our empirical survey.

6. Survey results

To compare the perceived relative importance of a set of port policy objectives, representatives of port management in each of the ports in the study were asked to evaluate the importance of these objectives. Despite representing a significant share of marine container traffic for the regions of case study comparison, there is no intention to generalise the results found to all container ports in Australia, Canada and the EU due to the limited sample size in this study. The comparison of results is limited to specific comparisons across the responses for each set of five managers for the three regions in the study.

Table 3 summarises the perceived importance of a set of port policy objectives. PA managers in selected ports evaluated the importance of the objective based on a Likert scale (Hayes 1993) measured from one to five (representing "not at all important", "not very important", "somewhat important", "important" and "highly important"). Comparing mean values of respondents' stated importance, the most important objective in Australian cases is increasing the sustainability of port performance (mean value in bold). In the case of Canada and the EU, influencing the adequate development of infrastructure is seen as the most important (mean value in bold). Relatively low values were given to the importance of environmental management and relations with local communities in both Canadian and Australian ports, compared to the EU.

Table 3: Port policy objectives – evaluation of the importance by PA representatives in selected Australian, Canadian and EU ports

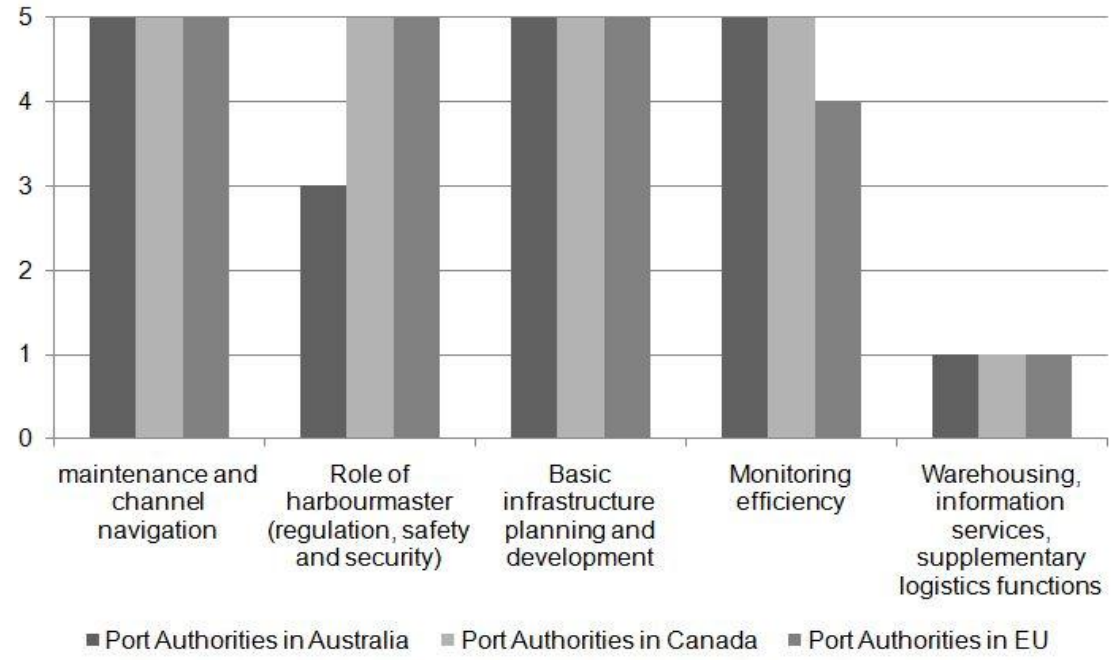
Port Policy Objective	Mean value (Australian ports)	Mean value (Canadian ports)	Mean value (EU ports)
Improving level of services for the customer*	4.2	4.8	4.6
Influencing adequate development of local infrastructure	4.2	**5.0**	**5.0**
Increasing port performance sustainably	**4.8**	4.4	4.8
Improving environmental management and relations with local communities	4.0	4.1	4.8

*Including service quality, customer satisfaction and support to customer performance improvement

Source: Authors.

PA representatives were asked to indicate the areas of operation (indicating all that apply) that should be within the PA's control; the results are summarised in Figure 2 (given by the number of cases per region). Maintenance and port channel navigation, and planning of basic port infrastructure and development, were perceived as important to be controlled by PAs in all regions in the study. Conversely, warehousing, provision of information services and supplementary logistics functions were fields found to be the least important in all three regions. An important distinction for Australian ports is that, in two cases, respondents indicated that it was not necessary for ports to regulate industries in the port, or to ensure security and safety in the port. For the EU, a representative of Hafen Hamburg Port Authority did not perceive monitoring port efficiency as a task the PA should be responsible for.

Figure 2: Preferred areas of control by port authorities (number of positive responses per region)

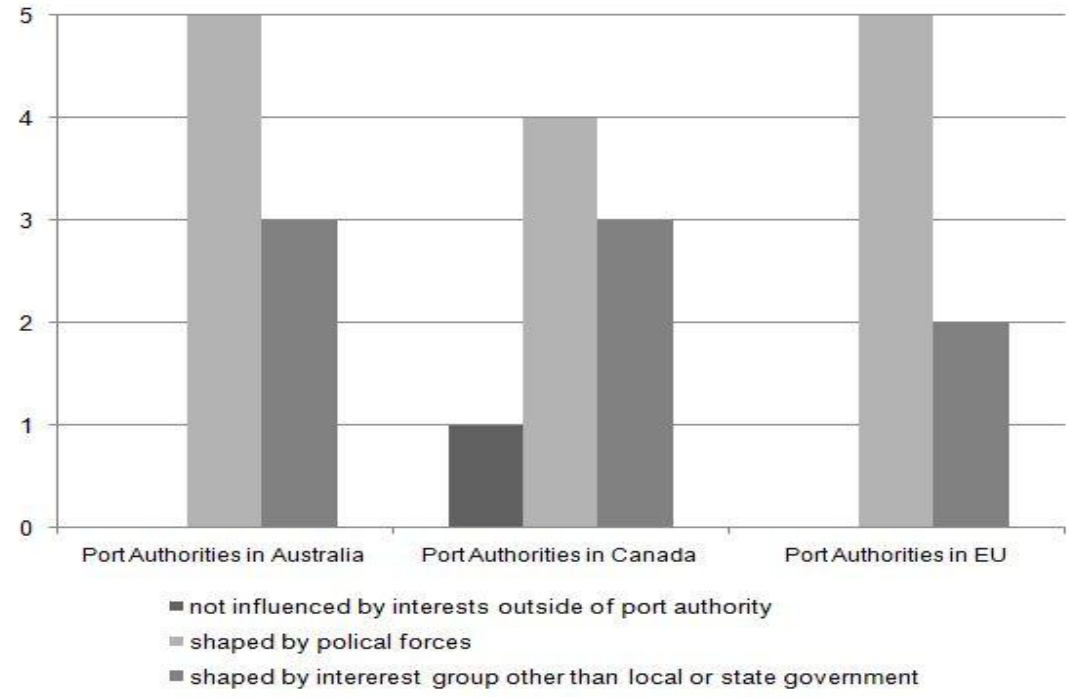


Source: Authors.

The PA managers were also asked to evaluate their independence when it comes to decision-making in the field of port strategies; the results are summarised in Figure 3 (given by the number of cases per region). Overall, political entities were confirmed as having an impact on port development strategies for all three regions within the sample. In Australia, all

PA representatives considered political forces via federal and local government agencies or commissions to be a factor affecting their decision-making in the field of port development strategies; this even held in the case of Port of Adelaide, which is private, managed by Flinders Ports Corporation. In Canada, where the Government of Canada directly controls four out of the five selected ports in the study (all except Sydney), one PA representative considered port policy to be politically independent. For the EU, the Port of Koper is solely private; despite this, Luka Koper (the port's legal authority) perceives the port's long-run port development strategies as being influenced by political forces.

Figure 3: Port policy implementation – relative degrees of independence in the field of long-run port development strategies, their planning and implementation (number of positive responses per region)



Source: Authors.

7. Conclusions

All factors considered, port policy implementation in Australia takes a bottom-up approach, focusing on the role of local and state authorities. In Australia, there is no mechanism similar to the Common Transport Policy in the EU; domestic transport policy affecting port policies is short- or medium-run oriented. A policy body willing to implement port development strategies is the National Transport Commission, stressing coordinated planning of Australia's major ports, which has recently released the National Ports Strategy (NPS). The NPS identifies strategic transport corridors and shipping channels to be developed, but states only general goals such as lowering land transport costs through improved efficiency, greater transparency and clarity, and promoting the implementation of best practice efficiency reforms. Ultimately, domestic maritime transport policy is more explicitly defined and mostly governed by state legislation and performed by corporatised PAs.

This relationship is in clear contrast to the experiences in Canada and the EU. In Canada, port development strategies, planning and implementation are dependent on political decisions made by Government of Canada representatives. In the EU, port policy and its strategies are mostly based on a top-down approach with national government and municipal units playing the key role in terms of decision-making.

Ultimately, there are several similarities concerning maritime and port policy in Australia, Canada and the EU ports, but even more differences. In Australia, the private sector tends to shape the development of port policy objectives more than in Canada. This commercial focus represents an interesting contrast to the higher involvement of state and regional authorities in port business in Australia and federal authorities in Canada compared to the EU.

The results of our empirical survey confirm the presence of both similarities and differences across these regions regarding port development attitudes and strategies. Whilst the survey results yield important insight relating to management and development of leading container ports in these regions, it would not be appropriate to generalise the results due to sample size restrictions. Similarly, the restricted sample size and qualitative nature of the data do not enable the identification of robust indicators of statistical significance. Rather, it is more appropriate to discuss the survey results and the motivation of managers' responses on a case-by-case basis. Ultimately, the survey results are intended to illustrate regional differences in port policy management; there is no intention within this study to provide global implications for the port industry either as a whole or within the compared regions.

With respect to areas that were perceived to be best under the control of port authorities, Australian managers held similar beliefs to Canadian and European managers, with the key exception of the role of the harbourmaster. Whilst Canadian and European managers unanimously stated that the port authority should be in charge of regulations, safety and security, only three out of five Australian managers in the survey agreed with this assessment.

Lastly, all but one manager in the survey (from Canada) stated that port development policies are influenced by political forces (i.e., government agencies or commissions with an interest in port development). Given the key variation in the role of levels of government in port development across the regions in the study, this confirms the central role political influence plays in port development regardless of whether a given layer of government holds an active role within a port.

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