



# GOVERNANCE AND LEADERSHIP:
## A Tale of Two Ports


**MICHAEL THARAMANGALAM**

April 2007

## Atlantic Institute for Market Studies

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Edited and prepared for publication by Barry A. Norris; design by Gwen North.

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# ABOUT THE AUTHOR

**Michael Tharamangalam** was the AIMS Manning Centre Intern during the summer of 2006. At the time he was finishing a Masters degree in Development Economics at Dalhousie University. He also holds a Bachelor of Science degree with an advanced major in Physics and a Diploma in Engineering, both from Dalhousie.

# EXECUTIVE SUMMARY

Seaports are critical components of the international trade network and the efficiency and cost-effectiveness of a port has important impacts for the surrounding region's economic development and well-being.

In many countries ports traditionally have been run by governments, but since the 1980s there has been a growing trend to increase the level of private sector and local community involvement in the management and operation of ports. Port governance reform processes in Canada have devolved some control over ports, including Halifax, to community interests, but the federal Minister of Transport retains control over appointments to ports' boards of directors.

Halifax and the Mexican port of Lázaro Cárdenas share a number of attributes. Both are deepwater ports, both currently have low levels of congestion, and both see great opportunity in acting as gateways for the flow of Asian container traffic into the North American interior. Given these similarities, and the recent tremendous growth of Lázaro Cárdenas, it is interesting to compare the two in terms of the governance and focus of both the port and its surrounding industrial cluster.

Utilizing the lessons of Lázaro Cárdenas' success, this paper concludes that Halifax can improve its performance through the following:

- adopting a strategic business development plan;
- ensuring competitive tariff levels;
- attracting "leader firms" to invest in infrastructure;
- building strong relationships among port administration, shippers, shipping lines, and railways;
- targeting any public efforts to maximizing utilization of existing capacity before embarking on expansion;
- aggressive marketing;
- ensuring that all board members are well versed in port issues
- expanding the range of means through which the port may raise revenue; and,
- rationalizing the roles of the many government agencies that currently are involved in port affairs.

# INTRODUCTION

In the modern world, the success of regional and national economies is based on their ability to trade. A significant portion of this trade is conducted through seaports. In addition to the revenue generated directly by port operations, a well-run port may increase trade as the price of importing and exporting is lowered, resulting in benefits to the local economy that exceed those to port users. Thus, ports occupy a special position in society as agents for economic development. Moreover, since ports are also used for naval defence purposes, they have a benefit to the nation that exceeds any commercial advantages. As such, ports traditionally have been considered far too important to fall out of public hands, and in many countries they have been controlled and operated by government.

The status of the government-owned and -operated port, however, has been challenged in recent years, for several reasons. Politically, the philosophy of government as provider of all utilities has been challenged since the days of Margaret Thatcher, Ronald Reagan, and Brian Mulroney. Economically, increased trade under globalization, the introduction of modern information technology, and other technological changes in the shipping world have all contributed to an increasingly complex and competitive system. Yet competition is not something that has been traditionally associated with the public sector, and there is now a perception that private sector operators are better able than governments to respond to complex and rapidly changing market conditions. For this reason, most countries now allow some level of private sector involvement in ports.

Policymakers tend to assume that privatization automatically results in improved performance. The idea is that private sector management, taking direction from a board of directors, will be more sensitive to processes and costs, as well as performance targets. But what really happens to port governance when reforms are implemented?

In Canada, port reform was carried out via the 1998 *Canada Marine Act*. Although the act and associated port reform process was supposed to leave ports autonomous and in the hands of community interests, in reality the federal minister of transport retained control of board appointments and membership. Thus, a system is still in place in which ministerial abuse and domination could play a part, leading to something less than the best port governance possible.

To see how governance affects the performance of ports, consider the cases of Halifax and Lázaro Cárdenas, Mexico. Both are deepwater ports that enjoy natural and geographic advantages. Their strategic locations and low congestion also mean that both are well placed to function as “gateway ports” for traffic into the United States. That is, they both stand to capture some of the increasing container traffic into North America — mostly from rapidly developing Asian countries, particularly as US west coast ports are rapidly reaching full capacity.

Although Halifax has had some success in developing its status as a gateway port, the performance of Lázaro Cárdenas has been truly stellar. Starting at a negligible level at the beginning of the twenty-first century, container traffic in Lázaro Cárdenas climbed to 43,445 TEUs by 2004 and to 132,479 TEUs by 2005.[1] Granted, Lázaro Cárdenas is a "greenfield" site — a new port with no prior container operations of significance — so its 204.9 percent increase in traffic over the period cannot be compared directly with the performance of an old, established container port like Halifax (with an increase of 4.7 percent). Yet the growth of container traffic in Halifax also lags that of other ports, such as Savannah, which saw a 14.4 percent increase between 2004 and 2005. In this paper, I argue that at least part of the reason for Halifax's slower growth can be attributed to problems of port governance. In particular, I examine two aspects of the governance problem.

The first issue is the *corporate governance* of the port authority, particularly the role of the board of directors. Has the strategic vision of the current board of the Port of Halifax limited the port's potential for growth? Why were stakeholders in Mexico able to envision that a small fishing and steel town could quickly develop container traffic exceeding that of Oakland or Seattle, while Halifax, with a much richer maritime history, is making only marginal gains that have as much to do with increasing market demand as with any positive action on the part of the port?

The second issue is so-called *cluster governance*, which de Langen (2004, 143) defines as "the mix of, and relations between, various mechanisms of coordination used in a cluster." In my view, Halifax's underperformance as a gateway port is linked to its failure to attract and coordinate various stakeholders, including dedicated terminal operators, shippers, carriers, third-party logistics companies, and the local rail monopolist (in this case, CN). Lázaro Cárdenas, in contrast, has seen high levels of coordination among port authorities, federal and state governments, a world-class terminal operator (Hutchison), and, crucially, the rail line (Kansas City Southern de México). I argue that, in Canada, cluster governance is an issue that has not been given sufficient emphasis either by local port authorities or by the federal Department of Transport.

## Outline of the Paper

Port management can be classified largely within a framework of several possible governance structures, which, for any given port or system of ports, are achieved by particular measures undertaken during the port reform process. In the next section, I consider a number of models that have been proposed to map the port reform process, with a focus on the "landlord port," a governance structure that is particularly significant for both Halifax and Lázaro Cárdenas. All these models work on the assumption that some level of privatization increases efficiency.

I then look at actual port governance structures in a number of countries that have undertaken significant reforms over the past two decades, as well as the impact of port reforms in Canada and

1 See American Association of Port Authorities (2005). TEUs refer to 20-foot equivalent units — hence, a 40-foot container is 2 TEUs.

Mexico. This is followed by an exploration of cluster governance and its importance in determining the performance of both Halifax and Lázaro Cárdenas.

The governance structure of the Mexican port is not perfect — indeed, there is much room for improvement. Yet the success of the overall experience of Lázaro Cárdenas contains valuable lessons for Halifax, which I present in the next-to-last section. The paper closes with a set of recommendations — relating to business, governance, and legislative amendments to the *Canada Marine Act* — that could significantly improve the ability of Halifax to grow to its maximum potential as a North American gateway port.

# MODELS OF PORT PRIVATIZATION

In one respect, port reform has been like the reform of other public utilities and firms around the world: the focus has been to devolve control to lower levels of government or to community interests, to lessen the financial burden on the public purse, and to gain some of the purported efficiency of the private sector. The literature on port reform is motivated by these same concerns. The majority of this literature constructs categories based on how far the reform process has gone. Examples include the World Bank Port Reform Toolkit (World Bank 2003) and the guidelines for port reform published by the United Nations Conference on Trade and Development (UNCTAD 1998), both of which were intended to be a policy guide for countries attempting reform. Such models detail the extent of privatization, and then try to find some optimum level of privatization for ports. I explore these and other models below.

## *The World Bank Port Reform Toolkit*

The World Bank Port Reform Toolkit proposes four models for ports. The traditional government-run model[2] is similar to the *service port*, which the World Bank toolkit defines as ports with a "predominantly public character." In these ports, all functions are controlled by the (public) port authority, which is itself usually under the ministry of transport or some equivalent ministry (World Bank 2003; Brooks 2004). The port authority is also the sole employer of port labour for cargo-handling services, while the director of the port reports directly to the minister.

A variant of the service port is the *tool port*. As with the service port, the port authority owns all the infrastructure and superstructure, but the superstructure is available for use by private companies, which handle operations on board vessels as well as on the quay and apron. Problems with this model mostly relate to the fragmentation of cargo services: in a tool port, a number of small companies typically provides cargo handling, while the port authority itself continues to undertake some cargo-handling operations. This structure carries the potential for conflict among the various cargo-handling companies, stevedoring services, and the port authority. In addition, strong stevedoring companies do not develop in a tool port, and the lack of infrastructure ownership deprives companies of any stable role in the port and limits their possibilities of expansion.

2 Government-run ports are traditional only in the sense that this was the system that existed in most developed countries by the late 1970s and that continues to exist in many developing countries today. De Matons (1996) notes that these government-run authorities were themselves created to counter the monopolistic tendencies of the private ports that were ubiquitous in the nineteenth century.

A third model, the *landlord port*, is one of the most common types of port in existence today.[3] This is a mixed public-private model in which infrastructure is leased to private operators and/or industries. The maintenance of infrastructure remains the responsibility of the port authority, which carries out maintenance of wharfs and dock, dredging operations, and the like. The port authority is also responsible for the long-term development of the land, economic development, and the majority of regulatory functions.

The fourth of the World Bank toolkit's port models is the *private sector port*, in which land ownership and regulation is entirely in private hands.[4] Fully private ports are disfavoured in most countries as they exclude public control. There is also a concern that private port land might fall into the hands of speculators or be otherwise used for non-port purposes, to the detriment of the public or the economy at large.[5]

Brooks (2004) criticizes the World Bank toolkit, however, for its overly simplistic approach. In reality, port functions are performed by various levels of government or by the private sector in response to specific local conditions and in harmonization with government economic development strategy. This variety cannot be accommodated by the toolkit's neat categories. More significantly, the World Bank provides no guidance to governments on how to reform their port systems.

## *UNCTAD Models*

The United Nations Conference on Trade and Development (UNCTAD) has also modelled the port reform, or privatization, process in the hope of providing guidance to countries that attempt port reform. The UNCTAD framework allows for much broader categories than the World Bank toolkit. In addition, UNCTAD acknowledges that the modelling is only for descriptive purposes, and that any adaptation of these models would require extensive modification to suit local conditions.

### The 1995 UNCTAD Model

In a 1995 study, UNCTAD describes a port reform system along a spectrum from fully public to fully private in which the mildest reform is the *managerial approach*, where efficiency is gained by streamlining the operations of management, but the port's basic public service framework is left intact. The study acknowledges that a lack of local decisionmaking power is a key problem in centralized/public service ports. Hence, it recommends decentralization, but with some external control being provided either by market forces or by regulation.

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3 Ports in Canada operated under the Canada Port Authority and in Mexico under the Administraciones Portuaria Integrales would both fall under the broad description of "landlord port."

4 Fully private ports (such as those in New Zealand and Britain) are actually quite rare (see Hochstein 1996). Because such ports have entirely withdrawn any "public interest" functions, Baird (1999) refers to this model as "extreme privatization."

5 See Turnbull and Weston (1993) for an examination of this problem using the British case.

Going further along the port reform spectrum, the UNCTAD (1995) study regards *deregulation* as stronger than mere managerial reforms. Here, however, deregulation does not imply the abolition of all government restrictions and regulations; rather, it means that the regulatory regime should be modified to promote competition. This could be done by, for example, removing restrictions on investment or deregulating the price of port labour. This model is close to that of the World Bank's service port, as the port's social objectives would remain in place.

The next step is *commercialization*, the process by which broad social objectives are replaced by economic objectives for the port. According to UNCTAD, this model would not include contracting out services.

Further along the reform spectrum is *corporatization*, where a port, though it may remain in public hands, enjoys the same legal status as a private company, with government as shareholder,[6] but the land and assets of the port are transferred to the port corporation.

The final step, according to the UNCTAD study, is *privatization*, which is defined broadly as the "transfer of ownership and control of an existing enterprise, activity or service from the public to the private sector" (1995, 3). Divestment of government assets and the contracting out of services both count as privatization under this scheme.

## The 1998 UNCTAD Model

In a 1998 study, UNCTAD documents four different forms of privatization. The first is *comprehensive privatization*, which refers to the outright sale of all port assets (including all associated land and water areas) and services to a (private) company. The comprehensive nature of this reform makes it similar to the World Bank's service port model.

The second type of privatization, where only part of the assets and activities undertaken in the port are transferred to the private sector, is *partial privatization*. For example, towage and pilotage services could be privatized or a concession could be granted to a private company to operate a container terminal.[7]

While both comprehensive and partial privatization describe the *extent* of privatization, the UNCTAD (1998) approach is unique in that it also has two categories that describe the *quality* of privatization. *Full privatization* refers to full ownership by the private sector, while *part privatization* indicates that ownership has been transferred to a consortium in which government retains significant interest. Thus, for example, under the UNCTAD model, there could be not just comprehensive and full privatization, but also comprehensive part privatization, as well as partial privatization, either in full or in part.

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6 Or, as in the case of Canada, the port authority can be a non-share, non-profit corporation.

7 Technically, a concession should be considered full privatization only if it results in full land ownership by the concessionaire. However, it appears the UNCTAD report does not make this distinction.

## Other Models

Baird (2000) suggests that three elements of port activity can be privatized: the port regulator, port landowner, and port operator. In a *public port*, all three are undertaken by the public sector. When the public sector retains the regulator and landlord functions, but operations are performed by the private sector, Baird calls this a *public/private port*; it is essentially the same as the World Bank's landlord port. Baird's third model is the *private/public port* — essentially a private port in terms of operations and land ownership, but where regulatory functions are carried out by a separate government agency. Finally, there is the fully *private port*, where the port is owned and operated privately and is self regulated.

Hochstein (1996, 145) presents yet another model for port reform, based on four "grand strategies": commercialization, liberalization, privatization, and port administration modernization. In this model, *commercialization* refers to a port with decentralized decision making and autonomous management. In such a port, management has full control over all port-related decisions; in turn, management is held accountable for the port's performance, which gives the port the ability (in theory) to function as a business. Hochstein states that "the objective is to combine the best features of both public and private enterprises." In order to achieve this, the port authorities must be freed from certain public responsibilities, such as "union rules and legislated work practices," in addition to freedom from "certain administrative, legal and policy constraints."

*Liberalization*, in Hochstein's model, involves removing the monopoly power of government over ports and allowing private ports to compete in the market. Hochstein argues that, as ports cannot be truly commercial without competition, liberalization is a natural complement to commercialization.

*Privatization*, according to Hochstein, involves the transfer of functions to the private sector.[8] While it may involve the transfer of ownership (through sales of assets, build-operate transfer schemes, or joint ventures), it may also be limited to "private sector management practices" such as lease and operating contracts.

Finally, *port administration modernization*, in Hochstein's model, refers to largely superficial reforms, in that existing structures and institutional arrangements are not changed; rather, reform is limited to efficiency gains through computerization or some changes in management processes.

Hochstein's "grand strategies" for reform result in three different types of ports: *operating ports*, which are those fully controlled by government (akin to the service port in the World Bank model; *mixed ports*, which are those in which both the public and private sectors provide some services (similar to the World Bank's tool port); and *landlord ports*, where operating concessions are granted to the private sector. Like other analysts, Hochstein acknowledges the existence of fully private ports (mostly in the UK), but they are sufficiently rare that he does not highlight them in his model.

8 This definition is in contrast to several others in the literature. Brooks (2004), for example, refers to the concession-based landlord port system as "outsourcing," rather than "true privatization," while de Matons (1997. PAGE) agrees that "privatization takes place only when there is a sale of public property to individuals."

All of the models discussed above use different categories, and often use the same term (such as "privatization") to mean different things. Yet they all distinguish various categories along the spectrum from fully public to fully private, and all (with the exception of UNCTAD) recommend a single optimal solution for all ports. Commenting on the models of Baird and others, Baltazar and Brooks (2001, 3) note that "[t]he recommendations possess the quality of being absolute, of being critical factors for successful [Alternate Service Delivery] implementation." In contrast to this approach, they develop a "matching framework model," in which the optimal strategies and structures are those that are suitable for local conditions.

## *The Landlord Port*

The different approaches to privatization under the World Bank, UNCTAD, and other models are summarized in Figure 1. When public policy favours private sector involvement, port reform consists of shifting the port model rightward along the spectrum in the figure. In developed countries, this usually involves moving approximately from the public service port to the landlord port. In developing countries, reform away from the public service model frequently results in something slightly to the left of the landlord port model.[9]

With the exception of Britain and New Zealand, both of which have some fully privatized ports, most developed countries, including Canada, have some variant of the landlord port. Those in Mexico are almost landlord ports, but they do not have the independent port authorities that are typically found in this model.

### The Port Authority

The fundamental institution of the landlord port is the port authority, which is either the owner or the long-term lessee of port lands. In both landlord ports and tool ports, the port authority plays a crucial role in marketing the port, maintaining superstructure, and so on. On the assumption that ports have some public-good aspect, the port authority exists to make investments that are beneficial to the economy but that private actors will not undertake.

De Matons (1997) argues that port authorities are actually public trusts; therefore, they are supposed to run in a manner that maximizes public benefit (for example, by increasing traffic) rather than the profit of the port authority. Thus, port authorities that are "commercialized" are self-serving and should be abolished, while more publicly oriented authorities should be preserved.

The port authority may be a corporation, governed by a board of governors similar to a private company. Though a commercialized entity, the port authority may be incorporated as a not-for-profit corporation and, as is the case in the ports of Halifax and Lázaro Cárdenas, required to reinvest all

9 Shashikumar (1998) notes that this is the intent of port reforms in India. However, Estache, González, and Trujillo (2001) see the landlord port as an intermediary step in Mexico (and other Latin American countries) on the road to full privatization.

**Figure 1:** ***Models of Port Privatization in the Literature***

*Increasing Private Sector Involvement and Control* →

| | | | | |
|---|---|---|---|---|
| World Bank 2003 | public service | tool | landlord | private service |
| Hochstein 1996 | (1) operating | (2) mixed | (3) landlord | "extremely rare" |
| UNCTAD 1995 | managerial measures | deregulation | commercialization<br>corporatization | privatization |
| UNCTAD 1998 | n/a | partial, part | partial, part or full | comprehensive, full |
| Baird 1996 | public | | public/private | private/public, private |

← *Increasing Public Sector Operations and Control*

profits in their facilities. In Halifax, the port authority is actively involved in maintenance, marketing, and coordination of port activities. Although the port authority does not own the land, it is able to grant leases to terminal operators. In Mexico, the functions of the port authority are split between the federal Secretaria de Comunicación y Transporte and local port administrations (Administraciones Portuaria Integrales).

## Concessions and Other Lease Arrangements

The concessions offered by landlord ports today offer a variety of ways for a private operator to extract revenue in return for creating infrastructure. In the ports of Lázaro Cárdenas and Halifax, the concession arrangements are close to what de Matons (1996) calls "French type concessions." Under this scheme — commonly known in the literature as "build-operate-transfer," or BOT — the private sector partner[10] incurs capital costs up front by making significant infrastructure investments; these costs are recovered via the lease agreement, at the end of which the terminal (with the entire infrastructure upon it) returns to the control of the port authority.[11] Other schemes include full ownership for the terminal operator (build-operate-own, or BOO) and ownership for the lease period followed by transfer back to the port authority (build-own-operate-transfer, or BOOT).

Although a BOT scheme can be a mechanism for introducing private sector involvement, it also maintains a strong role for the public authority. As Baird (1999, 5) says, "even in BOT arrangements the state will generally retain its public Port Authority, may also impose restrictions on future tariff increases, share in port profits, stipulate minimum throughput targets, and property rights ultimately revert to the state at the end of the contract period."

10 The concession could also be granted to a private consortium that includes significant levels of government involvement. This was the case in the original concession to Halterm at the Port of Halifax.

11 Lease agreements traditionally last for about 20 years. The increasing sophistication of port infrastructure, however, has led to a demand by terminal operators for longer lease terms. In the Halifax case, some within the port community contend that a 40- to 50-year lease would be a fairer duration to allow for cost recovery and reasonable profits by terminal operators.

# PRIVATIZATION SCHEMES AND GOVERNANCE

The literature on various models of port reform reviewed above suggests that some level of privatization is expected to increase efficiency in the port, but what are the mechanisms by which this is to come about? The expectation of increased efficiency presumes, first, that managers will make better decisions. The change in managerial decisionmaking is itself attributed to a new, "business-oriented" policy environment. Yet, such an environment does not come about by chance or merely because there has been some devolution of power away from government. Rather, it reflects a conscious decision by port directors to change the orientation of management. The role of port directors, the institutional framework, and the goals set for management are all determined by the governance structure of the port.

Brooks (2001, 2) says that, following devolution the new entity must determine its own identity and vision: "In devolution, each devolved entity faces an identity crises: does it co-opt the objectives of government, or identify its own in keeping with the views of the newly created Board, or co-opt those of its community stakeholders?" In a later paper, Brooks clarifies that the strategic vision "depends on the governance model under which it operates and the legislative, economics and social environment in which it operates" (2004, 173).

In this section, I explore port governance structures in several countries, beginning with the United States, whose ports are in direct competition with those of Canada and Mexico. The British case lies near the full privatization end of the public/private spectrum, while Singapore is harder to place: it demonstrates many of the characteristic features of the fully private corporation, yet the port is, in fact, fully owned by a government holding company. I close the section by considering port governance in Canada and Mexico.

## *Port Governance in the United States*

The United States has a large number of ports. Some small private ports are owned by particular industrial interests, such as iron ore or electric companies. Other small ports operate much like public ports — that is, they are open to general use, although operated by private interests such as railway companies. A large number of the major ports, however, are operated by public port authorities — although administration of the country's diverse ports is not regulated by any national ports policy. While Canadian port authorities are federally mandated, US ports often have a much greater degree of participation and control by state and municipal levels of government. Indeed, federal involvement is severely limited: "Neither Congress nor any federal agency has the power, or even

the right, to appoint or dismiss port commissioners or staff members, or to amend, alter or repeal a port authority charter" (Sherman, n.d.).

Most ports in the United States began as private railway ports, but monopolistic abuses by railway companies led to revolts by farmers, traders, and others in the late 1800s. The court system sided with them, and the US Supreme Court used the law of eminent domain to assert rights over harbours in the public interest. This process led eventually to the conversion of private ports to port authorities (de Matons 1996). Yet, as Ircha (1995) points out, US ports lack a national strategy. As a result, governance is fragmented, with participation by both the public and private sectors, and with several levels of government imposing their own priorities and requirements on the ports.

Compared with most other developed countries, the United States provides a high level of subsidies to its ports. Brooks (2004) cites a study that found that, in fiscal year 1996/97, US ports received capital mostly through grant loans, grants, and taxes, as well as tax-exempt revenue bonds, and only 31.7 percent of their revenue was generated from port operations. Yet the extent of subsidies provided by the US federal government is not readily apparent. For example, the Port of New York/New Jersey claims on its web site that it is "a financially self-supporting public agency that receives no tax revenues from any state or local jurisdiction and has no power to tax. It relies almost entirely on revenues generated by facility users, tolls, fees, and rents."[12] But this does not account for channel dredging carried out by the US Army Corps of Engineers, at an estimated cost of US$1.6 billion, largely borne by the federal government.[13] This high level of subsidy has a distortionary effect on port functioning. Helling and Poister (2000, 307) note that, "because [US] ports are publicly subsidized, competition does not ensure efficiency." They also suggest that "subsidized competition may have created excess port capacity in the United States."[14] This is particularly relevant for ports in Mexico and Canada that compete with US ports in the NAFTA market. O'Keefe (2003) notes that the difference in their capital investment regimes places Canada at a disadvantage vis-à-vis the United States.

## Port Governance in the UK

The British port reform process has led to one of the few known cases of full, or "extreme," privatization (Baird 2000; Hochstein 1996). In most other countries, the reform process has involved government devolution, with the inclusion of the private sector via lease arrangements. In the UK, however, the process involved the outright sale of port assets. The most salient of these was the privatization (outright sale) of 19 ports that formed the Associated British Ports (ABP). The goals of this process — including improved efficiency and management, and revenue generation for the

12 See web site: <http://www.panynj.gov/AboutthePortAuthority/Governance/>.

13 "Port Authority, Army Corps sign historic agreement to begin major channel deepening project in Port of NY/NJ"; see web site: <http://www.panynj.gov/AboutthePortAuthority/PressCenter/PressReleases/PressRelease/index.php?id=531>.

14 There may be, however, other reasons besides subsidies for overcapacity in US ports, including their increasing difficulty competing with the expanding facilities of Canadian and Mexican ports.

government — were similar to those of port reform elsewhere. However, the political philosophy of the Conservative government of Margaret Thatcher, which introduced the reforms, led to other goals as well. For instance, it was thought that share ownership would be a significant motivator for managers and workers alike. According to Haarmeyer and Yorke (1993, 14),

> Employee share ownership played a vital role in securing employee cooperation in privatizing the ports and increasing the incentive to raise worker productivity. This was basically accomplished by strengthening the link between employee performance and reward. By aligning the interest of employees with that of the company, employee ownership gives workers a direct stake in a company's performance, and hence encourages employees to work more productively.

Later assessments of this process, however, were less positive. Baird (1999, 7) comments:

> In reality, shares in the ports were acquired very cheaply (to ensure take-up) and as soon as the first offer arrived valuing the port more accurately (i.e., much higher than government), managers and employees were tempted to dispose of their shares in return for significant personal gains, as happened at Medway, Clydeport and Tilbury.

In addition, the issuing of shares made the ports privy to the short-term interest of shareholders, rather than the long-term investment ports require.

Baird (ibid.) also claims that the government vastly underpriced the port lands, which allowed the buyer companies to look financially healthy because of their low capital costs (and, therefore, low debts and associated interest payments). In fact, these low-interest payments were tantamount to a government subsidy, as they would have been much higher had the port lands been priced at full market value.

Commenting on the sale of ABP, Haarmeyer and Yorke (1993) claim that, by "1990, the current assets of the company stood at £272.7 million, more than double that at the time of privatization.... By far the two largest sectors were investment in the ports themselves and property development." Yet Baird (2000) finds that privatized ports invested less in development than the port authorities they replaced. Baird also criticizes the government for withdrawing from its regulatory role. Brooks (2004, 8) notes that, in the British case, "the business of port regulation, as distinct from port management, has been minimalist at best; a national ports policy, for example is only implied by the actions of the government."

The failures of full privatization, as demonstrated by the British case, may have influenced the Canadian government in its decision to use devolution and non-profit corporations rather than the fully privatized model for ports.

## *Port Governance in Singapore*

The history of the Port of Singapore (especially pre-1996) shows that public ownership *can* work. In Singapore's case, however, this was effective only because the government had a commitment (actual, not rhetorical) to making the port run on "market discipline" — for example, when hiring

and firing workers (Ho 1996). Such arrangements were possible because of the Singapore government's unique combination of *dirigiste* and *laissez-faire* approaches.

The policy framework Singapore adopted in the 1950s was, in fact, unique among development policies at that time. While other developing countries attempted to build their economies through government planning, Singapore established a policy of non-interference in port affairs. Ho (ibid.) quotes a Singapore government document of the time, as follows:

> [O]ne of our very first informal conclusions was that we must not without very good reason, or more than absolutely necessary, disturb the present practices of trade and commerce, and that we must not suggest any course calculated to drive trade away from Singapore, since its success has highly come from its reputation as what is described (not entirely accurately) as a "free" port. We have therefore tried in our deliberations to look at everything within the context of its effect on the competitive capabilities of Singapore, and to frame our proposals accordingly.

Operating within such a framework, the publicly controlled Port of Singapore has functioned quite differently from other public ports and is unlikely to be a model for public port systems elsewhere. Indeed, a publicly controlled port that embraced "market discipline" might be difficult to obtain in a democracy.[15]

The changing economic climate caused even the Port of Singapore Authority to switch to a corporate entity in 1997, becoming PSA International. Although PSA International is currently one of the largest container terminal operators in the world, with operations in 11 countries, it is a wholly owned subsidiary of a government holding company, Temasek Holdings.[16] Following corporatization, the regulatory functions of the port were transferred to a new statutory board, the Maritime and Port Authority of Singapore.

Previously, the Port of Singapore Authority was administered by a board including a chairman, three Singapore government members, and ten shipping community members. Currently, the board of PSA includes no government representatives, although the chairman of the Land Transport Authority is also on the board.

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15 In a democracy with a large public sector, many economic failures can be met with continuous pressure on government to increase public spending. Conversely, decreasing the funding to public projects can become politically unfeasible. For more discussion on the tendencies of democracies with public planning constantly to increase operations, see Hayek (1994).

16 For further information on the transition, see web site: <http://www.internationalpsa.com/about/heritage_f1.html>. Although Temasek Holdings does not fully disclose its financial information, it does acknowledge holding PSA International. See web site: <http://www.temasekholdings.com.sg/our_investments/ourinvest_tlc.htm#psa>.

Temasek Holdings is a government investment company that manages investments in state enterprises and companies in which the Singapore government is at least a 20 percent stakeholder, called "government-linked enterprises," or GLCs. These GLCs resemble private corporations more than the state-owned enterprises of other countries (Ramirez and Tan, 2004). The unique institutional culture of publicly owned enterprises that function as private corporations helps to explain the success of public enterprises in Singapore (including the port) where those in other countries have failed.

## Port Governance in Canada

In Canada, the federal government has devolved some responsibility for ports from the public to the private sector through the implementation of its 1995 National Marine Policy under the 1998 *Canada Marine Act*. Indeed, the National Marine Policy makes Canada one of the few countries actually to have a coherent national policy on ports.

Canada's experiment with devolution of ports began in the 1980s. At that time, the 15 largest ports in the country were controlled by a Crown corporation, the National Harbours Board (NHB). In the early 1980s, the power of the NHB was reduced by the creation of a local port corporation (LPC) at each of the former NHB ports. These LPCs were separate Crown corporations, each with a board of directors appointed by the federal minister of transport. The board, in turn, appointed a chief executive officer, a custom adopted from the private sector. This arrangement, however, left power largely in the hands of the Department of Transport. Funding for the ports continued to come from the federal government, although some private investment also took place. Brooks (2007) charges that the availability of government funding through this period was influenced by the personal relationships between individual board members and the minister.

The next stage in the devolution process occurred in the 1990s with the introduction of the National Marine Policy, which reiterated a commitment to safe transportation, a clean environment, and service of remote communities. For the larger ports, however, the new policy was meant to "shift the financial burden for marine transportation from the Canadian taxpayer to the user" and to "encourage fair competition based on transparent rules applied consistently across the marine transport system," which hinted that privatization would now be factored into the reform agenda.[17] The policy was also marked by a willingness to allow a reduction in "infrastructure and service levels where appropriate, based on user needs." The National Marine Policy also proposed three different models of ownership for Canadian ports, each with different "organizational structures and management processes" (ibid.).

Then, in 1998, the Canada Marine Act introduced the legal framework for significant reform, but the path chosen was devolution, rather than full privatization, "to invoke community responsiveness through the creation of not-for-profit stakeholder-focused entities" (Baltazar and Brooks 2001, 12). As part of the process, the new port authorities were to be run by a community-selected board of governors. Such policies were not unique to ports: during the same period, salient reforms were undertaken in other Canadian transport industries, including the privatization of CN (one of Canada's two class 1 railways)[18] and NavCan (the air navigation system). All of these reforms were part of the federal government's attempt to deal with a new political philosophy (devolution and

17 For the objectives of the National Marine Policy, see the Transport Canada web site: <http://www.tc.gc.ca/pacific/marine/nationalmarinepolicy.htm#61>.

18 Class 1 railways (also known as Class 1 railroads in the United States) are the largest railways in North America, based on operating volume. There are currently nine class 1 railways in Canada and the United States, including CN, CP, KCS, and Norfolk Southern. The Mexican railways, TFM, KCSM (a subsidiary of KCS), and FXE are also sometimes included in class 1 railways.

community control) and a new economic reality (the unsustainability of deficit levels and the need to reduce federal government expenditures).

The National Marine Policy suggested that an extensive devolution was planned, which would change the governance of the ports entirely. When the *Canada Marine Act* was passed, however, the results were less than stellar. The act specified a new management structure that sought to increase local input and autonomy, but, although community input is now actively sought in board selection, the federal minister of transport retains the right to approve candidates. Baltazar and Brooks (2001, 13) note that "the Minister decided on his choice of candidates and was able to reject candidates put forward by local interests" and they thus conclude that "true devolution did not happen for Canadian ports." The boards' capacity for autonomous decisionmaking was affected as well, since "board decisions could reflect ministerial priorities if the appointees chose loyalty to the Minister over fiduciary responsibility to the entity" (Brooks 2007, 14).

One of the reforms of the *Canada Marine Act* was to place limits on the amount of federal government grants that would be made available to the newly created port authorities. This seems reasonable considering that one of the primary aims of the devolution process was to keep these ports from becoming a major drain on the public purse. The problem was that the act did not make adequate provision for ports to pursue and receive funds from the private sector; rather, each port's Letters Patent allows for money to be raised only through pledging the revenue stream. (In the United States, in contrast, port authorities have several ways to raise money, including issuing bonds and running for-profit subsidiary services.) Under these circumstances, some Canadian port authorities finance themselves the way they always have: with money from government. In response, several ports have asked the minister of transport to raise their borrowing limits. For example, in 2004, the Port of Vancouver was allowed to raise its limit from $225 million to $510 million. In Prince Rupert, BC, however, major expansions were carried out by funnelling federal money through the provincial government.

Each of the 18 Canada Port Authorities functions as a corporation. None issues shares; instead, each is supposed to operate with "full commercial discipline" in accordance with the National Marine Policy.[19] This is largely the case in many aspects of the port authorities' operations. Where governance is concerned, however, boards do not follow the "best practices" of corporate governance. Although the primary responsibility to shareholders is not applicable here, most other best practices apply to the non-share corporation as well. Among these are duties to oversee all management practices and to implement and change the strategic vision of the corporation as required. Yet the port authority board itself is not a truly independent organisation since, as mentioned above, minister of transport continues to control the appointment of directors. In Halifax, for example, the minister appoints five of the seven port directors.

19 This requirement was softened by the subsequent *Canada Marine Act*, which required only that port authorities operate as not-for-profit corporations. The author is grateful to an anonymous reviewer for pointing this out.

## The Port of Halifax

The reforms of the transport sector in the past decade have had mixed results for the Port of Halifax. On the one hand, the port has truly become self-sufficient in terms of financing operating expenses. There has also been an increase in container traffic and other cargo movement. The port management now has a workforce with significant private sector experience and, therefore a "business-oriented" mindset.[20] Yet problems remain. Halifax, like other Canadian ports, has limited ability to generate revenue or to borrow from the private sector. Moreover, in the absence of the port's ability to raise new funds, port profits must also cover capital projects, an aspiration not always met.[21] Government funding is also far more restricted by the reforms of the *Canada Marine Act*. It remains to be seen how long the port can sustain growth with limited funding from both the public and private sectors.

On the positive side, however, Halifax has many geographic and natural advantages. It is ice free all year round, and has the deepest mainland harbour on the east coast of North America. Moreover, recent dredging operations have increased the port's maximum depth to 16.8 metres (55 feet). Thus, although 5000-TEU container ships currently enter the harbour, the port is already equipped to handle the 10,000-TEU ships that are expected in the future and that have already been introduced on Asian and Pacific routes. These very large post-Panamax container ships — so-called because they cannot fit through the Panama Canal — are more economical to use than the smaller ships they are replacing, but the only way such ships can reach the east coast of North America from Asia is via the Suez Canal. Halifax's location approximately 100 kilometres north of the Great Circle Route — which, because of the curvature of the earth, is the shortest route between North America and Europe — means that it is one of the closest North American ports of call for ships coming through the Suez Canal. Thus, Halifax can be used as a "First In Last Out" (FILO) port (see Cirtwill, Crowley, and Frost 2001). Ships heading for the east coast of North America can dock first in Halifax to lighten their loads and avoid channel-draft problems; similarly, they can top up loads on the outbound route. Alternatively, Halifax could be the final terminal in an Asian route. Cargo arriving in Halifax could be forwarded by transhipment, rail, or trucking to its final destination.

The introduction of the post-Panamax ship is a significant technological change that could have a major impact on trade and transport. Prentice (2006) argues that the rise and fall of cities as economic centres can be partly explained by technological change in transport.[22] Indeed, the port of Halifax was itself the victim of technological change when ice-breaking technology was introduced in 1966, making the St. Lawrence River passable in winter (Norcliffe 1980), partly nullifying the advantage Halifax had had as an ice-free port. This time, however, the technological change may

20 This claim was made by Patrick Bohan, Manager of Business Development, Halifax Port Authority, in an interview with the author, October 2005.

21 For example, in 2004, capital acquisition was greater than profits plus depreciation, meaning that some capital infrastructure was not renewed (see Halifax Port Authority 2004).

22 For instance, the rise of rail in the nineteenth century led to the rise of Chicago and the fall of St. Louis, which had relied on water transport for its commerce.

allow Halifax to regain its advantage. Post-Panamax ships cannot sail up the St. Lawrence, and the long-term ability of ports like New York/New Jersey to accommodate such huge ships is also questionable.[23] With improved infrastructure capability and enlightened management, Halifax could become the pre-eminent east coast port of North America.

Yet, Halifax's progress toward this goal has been slow. Management at the port has been unable to capitalize on its natural advantages, for a number of possible reasons. Governance problems prevent the board of directors from having any clear vision for the port. The board has not fully adopted the "best practices" of a non-profit corporation, which may have prevented it from setting an aggressive "gateway strategy." Since community input is now sought in the choice of directors, the board now includes credible business people, but some directors still come from sectors in which knowledge of relevant port issues is poor. Other problems include limited funding from both the public and private sectors, and lack of coordination of firms within the Halifax cluster.

In recent years, management has had some progress in attracting port traffic. In 2002, Halifax introduced SmartPort, an initiative to help stakeholders collaborate with one another. SmartPort is focused on marketing and strategy, competitiveness and productivity, and security and regulation. This valuable initiative has had positive repercussions for the port and the gains to Halifax are real, but they should be evaluated in the context of an expanding North American market.

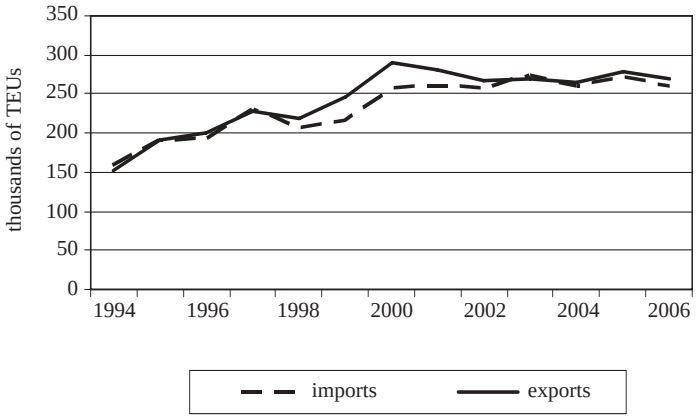
SmartPort and other initiatives have arisen in an environment of changing governance at the port. Although there have been no structural or policy changes to the board, management is, as noted above, increasingly drawn from the private sector workforce. The appointment of a high-calibre chief executive officer and conscientious board members may have contributed to an increase in port traffic in recent years, following the stagnation of the 1990s (see Figure 2).

Halifax continues to make some gains, largely as a result of the economic environment in which it operates. Note, though, that exports were stagnant and imports fell during the period between 2000 and 2004. More salient gains from the devolution process can be seen in the increase in profits: since the creation of the Halifax Port Authority, profits have increased continuously (see Figure 3). North American ports generally are seeing major increases in traffic due to increasing trade with Asian markets, to the point where ports on the US west coast are becoming saturated. As a result, some Asian traffic is now being sent to the east coast via the Suez Canal. Until recently, for example, Maersk came to Halifax via the Suez Canal through Algeciras, Spain. The port's success in getting this line is a testament to both the natural attractiveness of the port and the marketing efforts of the port authority.[24]

23 Recent dredging operations continue to allow New York/New Jersey to accommodate these ships, but the constant accumulation of silt from the Hudson River suggests its long-term existence as a deepwater port is dubious.

24 Maersk pulled out of Halifax in March 2007. The history of Maersk in Halifax is full of these dramatic changes in position; and the CEO of the port has expressed confidence that Maersk will eventually return (Oldfield 2007). Of course, as is the case for attracting other shipping lines, Maersk will be influenced to return by the kinds of improvements in logistical capabilities and coordination for Halifax traffic discussed in this paper.

**Figure 2:** ***Container Traffic in Halifax, 1994–2006***




Source: Halifax Port Authority.

Yet, this is still far below the capacity that Halifax could sustain. Since the port was a candidate for a dedicated Maersk terminal in 1998, traffic to the east coast of North America has increased by 45 percent, while traffic to Halifax has increased by 29 percent.[25] It would seem that a fully devolved board, one that is more responsive to its stakeholders, could take Halifax even further than it has gone in the past few years. Stronger marketing efforts — summoning the power of terminal operators as well as the port authority — could result in many more lines choosing to call at Halifax.

In this regard, the recent collaboration between the Halifax Port Authority and the Indian logistics and freight operator Jeena & Company is a welcome initiative. This makes Halifax the first Canada Port Authority to have an official representative overseas. Ultimately, however, the port authority has limited resources with which to conduct marketing efforts. To succeed in marketing the port, particularly in distant countries, will require the successful collaboration of the port authority and other stakeholder interests, such as the port terminal operators, the rail carrier (CN), and others within the port cluster.

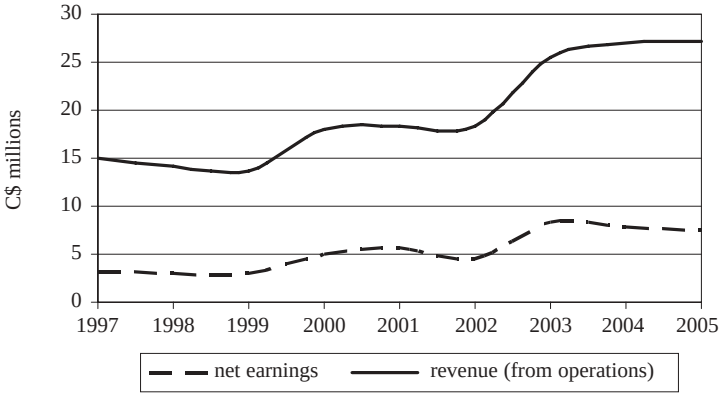
## *Port Governance in Mexico*

Mexican port reform began with the *Ley de Puertos* (Law of Ports) in 1993. Under this law, administration of the ports was devolved to (local) independent port administrations (Administraciones Portuaria Integrales, or APIs). The API is a publicly owned company to which the administration of a port (or a group of small ports) is assigned. However, the API is not a port authority — this role is retained by the Mexican federal government via the Secretaria de Comunicación y Transporte (SCT).

Prior to 1993, only the public agency Puertos Mexicanos (PUMEX) was allowed to build port infrastructure and provide port services. This agency was dismantled in 1993, and SCT became the authority charged with approving all concessions and licenses. The APIs have the right to grant concessions to third parties (subject to SCT approval). However, as with Canada Port Authorities, they do not have the right to dispose of land, which remains federal government property. Responsibility for the security of the port is undertaken by the Capitanía de Puertos, or Harbour Master, who also

25 This number is based on data on container traffic from the American Association of Port Authorities for the 1998-2005 period and includes all ports along the east coast proper of North America, but not US ports on the Gulf of Mexico.

**Figure 3:** ***Profits and Revenue at the Port of Halifax, 1997–2005***




Source: Halifax Port Authority.

coordinates the safety of operations and infrastructure together with the API and its terminal operators.

Actual devolution of power began with the creation of APIs in 1994. The *Ley de Puertos* requires APIs to contract port operations to third parties rather than carry them out directly. Estache, González, and Trujillo (2001) state that, theoretically, the APIs are an intermediate step on the way to privatization; in practice, however, only one API port (Acapulco) has been privatized, and no further privatizations are planned.

Each API is managed by a board of directors consisting of federal, state, and municipal representatives as well as some private sector stakeholders. The board sets the strategic plan for the coming year, called the *Programa Operativa Annual*, at an annual meeting. A representative of the state government (usually the minister of economic development or other high-ranking government official is required to attend the meeting.

## The Port of Lázaro Cárdenas

Lázaro Cárdenas is located in the state of Michoacán, on the west coast of Mexico. With a water depth of 16 metres (54 feet), it is the deepest port on the Pacific coast of Mexico. The traditional industries of Michoacán are fishing and agricultural products, primarily fruit. The steel industry has also played a large role in the city and port of Lázaro Cárdenas.

Following the creation of APIs in 1994, the Mexican government made a political commitment to "privatization." Under the new policy set, concessions for various port operations, including container terminal operations, should have been made available to the private sector. However, policymakers were soon faced with a problem. Prior to the reforms, policymakers had expected that concessions would result in the increasing specialization of ports — that is, each port would cater to a specific market, be it bulk, petroleum products, or containers. In fact, devolution had quite the opposite effect: ports began competing with their immediate neighbours for the same business. In order to prevent the fragmentation of business, each terminal operating firm was restricted to having one concession per coast.[26] At that time, the Manzanillo Container Terminal was operated by

26 This restriction was introduced by a ruling of the Comisión Federal de Competencia Mexicana, the Mexican competition agency. The reason given for this restriction was to avoid excessive market power to any one firm following privatization (Estache, González, and Trujillo 2001). The interpretation that this ruling was intended to offset market fragmentation was provided by Esther Rodriguez, a former business manager at the port of Lázaro Cárdenas (telephone interview with the author, August 8, 2006).

SSA. Thus, under contemporary Mexican competition law, SSA was not allowed to bid on the Lázaro Cárdenas concession.

Legislative changes do not automatically guarantee changes within an institution. It takes time for an institution to adjust to its new role, particularly when the change involves transition from public utility to a business mindset. Until 2001, the Port of Lázaro Cárdenas had no business development. A highly placed executive at the port at that time has commented:

> Business development in Lázaro Cárdenas did not occur until 2001-2002. Until that time, there was no business development area in the port. In 2001-2002, the port initiated a diversification strategy. Since then, total cargo traffic has increased 43.8 percent. The diversification strategy included appointment of representatives for sales, promotion, communication, and to liaise with the city (a small town largely dominated by the steel industry). A business action plan was formulated for the port (a first for Mexican ports) and was sent to the Director General of Ports. This model was subsequently implemented in all Mexican ports.[27]

The business development plan included a targeted international promotion to draw attention to the port. Various firms expressed interest in the port and acknowledged its natural advantages, but would not commit to investments given the lack of distribution infrastructure. Indeed, the infrastructure deficit in Lázaro Cárdenas at that time was serious. The town was served by a very poor road network, and while rail lines to the port existed, they were poorly maintained. In addition, the rail connection suffered from disputes between Mexico's two leading rail lines, Ferromex and Transportación Ferroviaria de México.

To overcome this problem, the business development team at Lázaro Cárdenas used an aggressive two-pronged strategy: it began to offer highly competitive integrated tariffs while continuing to market the port aggressively to shipping lines. The team also attracted potential operators for a container terminal. The result was the granting in 2003 of a concession to a consortium led by Hutchison Port Holdings. The new container terminal almost immediately began to be called upon by Maersk and other major shipping lines.

27 Esther Rodriguez-Silva, former business manager, Lázaro Cárdenas Port, telephone interview with the author, August 8, 2006.

# CLUSTER GOVERNANCE IN HALIFAX AND LAZARDO CARDENAS

The study of governance so far has been limited to port authorities. Indeed, economic analysis of seaports traditionally has been limited to port authorities and harbour activities. This method of analysis, however, is beginning to look increasingly myopic and obsolete. The economic and technological changes associated with globalization have made consideration of the entire supply chain, as opposed to the port in isolation, the important phenomenon.

De Langen (2004) uses the concept of a "seaport cluster" to analyse the various activities associated with a seaport and its supply chain. The impact of location externalities has long been acknowledged in the literature. However, the current concept of the cluster was first identified by Porter (2000, 16), who defines it as "a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities." Thus, a seaport cluster includes not only those activities directly related to the port (shipping, forwarding, and so on), but also logistics and industrial firms.

Governance of the port (by the port authority) has important implications for its economic performance. However, given the importance of supply chains in freight forwarding, the governance of the entire cluster (including private firms, public bodies, and associations) plays a vital role as well. This section draws on de Langen's (2004) cluster governance framework to expand the governance analysis to the seaport clusters of Lázaro Cárdenas and Halifax. Following de Langen, I examine four measures of the governance quality of a cluster: trust, the role of intermediaries, leader firms, and collective action.

## *Trust: The Reputation Effects of Firms*

Trust among the various agents within a cluster is essential for it to function effectively. The reputation of a firm becomes paramount in seaport operations. Here, shippers are forced to rely on carriers to deliver their goods on schedule.[28]

28 Another aspect of trust is the ability of all private actors to trust the legal systems of the state to safeguard their interests. Developed countries such as Canada are reputable in this regard because of their stable political and legal systems. In Mexico, there may be a perception that domestic players are not required to follow prescribed rules. This underscores the importance of foreign corporations within clusters, which are perceived as being less corrupt.

In Halifax, there may be some benefits to the presence of CN as the rail carrier, since it is the largest and most profitable class 1 railway in North America. There are, however, certain negative aspects to CN's reputation in Halifax. CN operates on what is known as the IMX (intermodal excellence) strategy, meaning that, in order to avoid transporting empty containers with no compensation, CN insists that its trains be "balanced" — that is, the number of containers leaving the port must be equal to the number of containers entering it. Unfortunately, this model leaves CN without the capacity to add cars on an outbound route. Thus, when a large number of ships arrives at the port, congestion arises since no accommodation is made for increased traffic. As a result of this policy, CN cannot reliably guarantee consistent delivery times.

At Lázaro Cárdenas, the container terminal is a new operation and hence it is difficult to find trust effects within the cluster. Significantly, however, Hutchison Port Holdings, the container operator, was itself persuaded by the rail operator, Kansas City Southern de México, to operate the terminal. This investment came about as a result of the existing relationship between the railway's parent company, Kansas City Southern (KCS), and Hutchison, based on a previous cluster collaboration of theirs in Panama.[29] Hutchison's reputation is, in fact, a persuasive factor for shipping lines to call at Lázaro Cárdenas.

## *Intermediaries*

De Langen (2004, 144) defines an intermediary as an organization within the cluster that can "lower coordination cost and expand the scope of coordination beyond price." An intermediary can do this by being a "bridging tie" between firms and other types of partners.

In Halifax, an important intermediary that has recently entered the market is Consolidated Fastfrate. Its transloading cargo service not only provides an alternate route from Halifax to Montreal and Toronto; it is also an important contingency for container traffic along these routes. At the same time, transloading makes empty containers available for local and domestic exporters. Thus, Fastfrate serves as a bridge between the entirely different sectors of distribution and domestic export.

In Mexico, Transport Cargo Services has played an important intermediary role as a route logistics coordinator, contributing to the creation of a new rail service (by KCS) from Lázaro Cárdenas to Jackson, Mississippi. The logistics coordinator also ensured that the route was along a line that offered further distribution options (Norfolk Southern connects Jackson and Atlanta, Georgia) and that another traffic contributor (Schneider National) is able to supply additional containers along this line in Mexico at both San Luis Potosí and Monterrey.

The Halifax cluster contains regional actors, which makes it difficult for firms within the cluster to strengthen or coordinate the gateway role. To see this clearly, consider the case of KCS and Hutchison in Lázaro Cárdenas. Both are international firms with operations in several markets; they

29 KCS has a 50 percent interest in Panama Canal Railway Company, which offers ocean-to-ocean rail for freight and passenger service. See web site: <http://www.kcsi.com/investor/investors.html>.

also have a long-term working relationship. Moreover, KCS had a strong interest in the Lázaro Cardenas–Kansas City gateway and is therefore tied into the Lázaro Cárdenas cluster. In Halifax, however, although CN does show an interest in the success of the port, it is not as strongly linked to any of the terminal operators or to other actors in the Halifax cluster. Some of these regional actors have international connections — for example, the Ceres terminal is actually owned by NYK line — and many international shipping lines call at the port. But none of these actors is able to leverage its weight in the same way that Hutchison does in Lázaro Cárdenas.

## *Leader Firms*

Every cluster has "strategic centres," or leader firms, that influence the performance of the entire cluster. In Halifax, several firms could be considered leader firms in the port cluster, among them Halterm, CeresCorp, Consolidated Fastfrate, Armour Transport, and Michelin. However, no leading firm occupies the same status as KCS in the Lázaro Cárdenas port cluster. Closely linked to KCS is the presence of Hutchison Port Holdings as the terminal operator at Lázaro Cárdenas.

### Kansas City Southern de México

In 1997, Mexico privatized its rail infrastructure, resulting in the offering of three major rail concessions to the private sector. One of these was a rail line running south from Laredo, Texas, to Lázaro Cárdenas that was bought out by a consortium that included Kansas City Southern, a class 1 railway based in Kansas City, Missouri. On December 5, 2005, the railway changed its name to Kansas City Southern de México and became a wholly owned subsidiary of KCS.

KCS's early initiative played a crucial role in the success of Lázaro Cárdenas. CEO Michael Haverty was one of the first to realize the importance of a direct line from the heart of the United States to the Pacific coast of Mexico, but his investment led to intense industry criticism of KCS and its balance sheets. The investment was also risky — theoretically, KCS's concession can be revoked at any time.[30] Yet Haverty and KCS proceeded with the investment, despite the risks, because they recognized the unique opportunity Lázaro Cárdenas afforded. They also had the foresight to anticipate that congestion at other ports, particularly Long Beach and Los Angeles would create demand for other ports capable of handling the increasing Asian traffic.

### Hutchison Port Holdings

With the rail link from Lázaro Cárdenas to the US hinterland secure, the next step was to ensure that shippers could guarantee necessary volumes for a container terminal operation. Through the end of the 1990s, Lázaro Cárdenas continued to have low container throughput, indicating that it was used only for occasional shipments — indeed, between 2001 and 2003, container traffic was nearly non-

30 See United Transportation Union, "The China Kansas City Express," at web site: <http://www.utu.org/worksite/detail_news.cfm?ArticleID=28483>.

existent. The next dramatic turn in the Lázaro Cárdenas story occurred in July 2003, when Hutchison Port Holdings, a subsidiary of Hutchison Whampoa, acquired a 51 percent stake in the Lázaro Cárdenas Terminal Portuaria de Contenedores (LCT). Hutchison Whampoa controls 12 percent of global container port capacity and therefore has enormous market power to guarantee volume. Hutchison's size also allows it to make relatively large investments without undue risk. In the first phase of its LCT development project, US$290 million was invested. The fruits of Hutchison's labours were seen when Maersk lines and, later, APL and CP ships began service to Lázaro Cárdenas. In Phase II of the project, Hutchison plans to develop an 85-hectare, deepwater, greenfield site with 1350 metres of berth.

## Collective Action

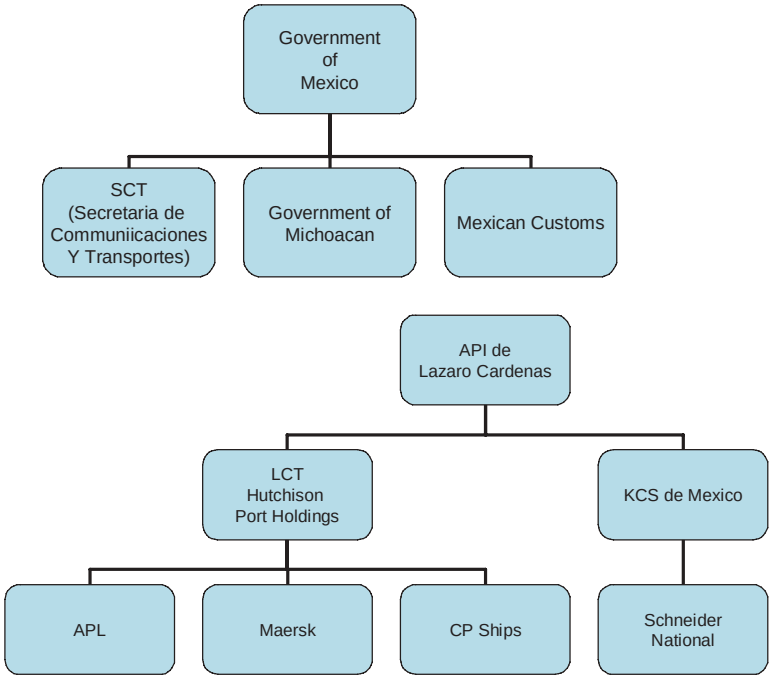
The nature of port clusters is such that all ports face collective action problems. In fact, one of the duties of the port authority is to aid in solving some of these problems, primarily by attracting cargo and companies to the port. The quality of what de Langen (2004) terms a "collective action regime" is determined partly by the infrastructure provided for collective action. In this regard, both Halifax and Lázaro Cárdenas fare well. Figures 4 and 5 show the complex network of associations, public/private organizations, and public organizations in the two clusters.

When competition is invoked as the path to efficiency, the implication is usually that uncompetitive firms will decline and be replaced, so that eventually only efficient firms will share the market. Yet, in reality, established firms do not just automatically decline. Interests within and outside a firm will voice their concerns and attempt to reform it. The mechanism of voice is a useful way to analyse a port cluster, where the members of the cluster are able to lobby governments and other stakeholders to improve their interests.[31]

The port of Lázaro Cárdenas is fairly new. Its container terminal, in particular, has been in operation for just three years and is not yet operating near capacity. As a result, many of the public organizations and private organizations found in ports such as Halifax are not yet present in the Mexican port. Thus, its relative lack of formal collective action infrastructure, as shown in Figure 4, may be countervailed by the newness of the facilities. However, Lázaro Cárdenas does benefit from the presence of leader firms such as KCS, the reputational effects of firms such as Hutchison, and strong coordination across firms. One of the major collective action problems in a cluster is lack of innovation. Because the entire container-handling operation is new in Lázaro Cárdenas, this is not yet a problem. It remains to be seen whether the port will adopt innovations with collective benefits (such as new information technology for the port or securing supply chains) in the future as the need arises. It is also worth noting that Lázaro Cárdenas is inherently subject to government control, given that the port is an API under the jurisdiction of an agency of the Mexican federal government.

31 The use of voice is one of two key strategies, first proposed by Hirschman (1970), that firms have in dealing with organizational decline (the other is to exit the market). De Langen (2004) argues that the voice of firms is an essential component in solving the collective action problems of a cluster.

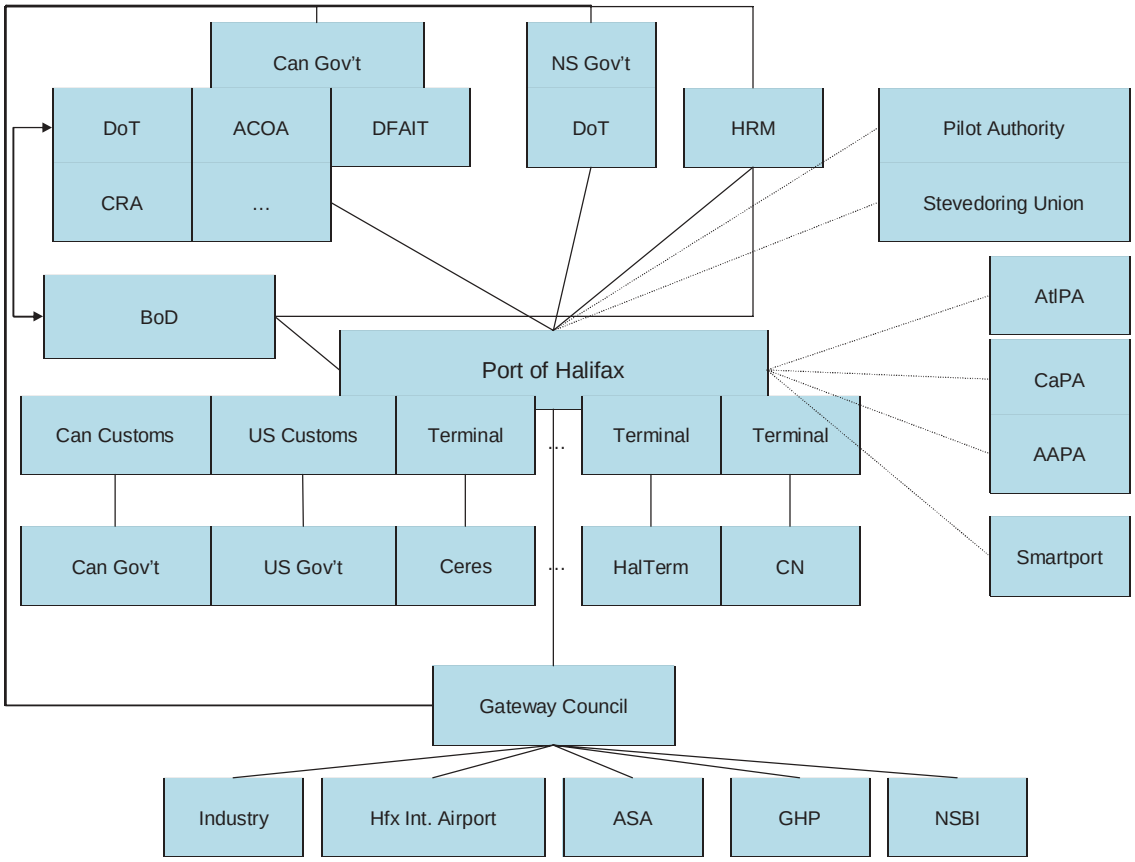
**Figure 4:** ***Port of Lázaro Cárdenas Cluster***




In Halifax, in contrast, the cluster is far more complicated, reflecting the age and complexity of port operations. As Figure 5 shows, Halifax stands out for the number of public organizations involved, including Transport Canada, the Nova Scotia government, the Nova Scotia Department of Transport and Public Works, Nova Scotia Business Initiative, and the Office of Economic Development. These public organizations play an important role in the port, as well as in related economic development in the region. They have not been able, however, to attract the sort of leader firms that operate in Lázaro Cárdenas.[32] It should be noted that, unlike Lázaro Cárdenas, Halifax is a multi-purpose port, with both hub and gateway functions and multiple destinations. Although the infrastructure for collective action is certainly present in Halifax, it is questionable how well this has been used. For example, associations such as the Halifax Shipping Association are effective in giving voice to their member firms on such critical issues as pilotage and border-crossing issues, but coordination among actors in the cluster is lacking and the interests of some are underrepresented. There have been no major initiatives to expand the supply-chain options available for cargo, or even to coordinate along existing supply chains. In short, the Halifax cluster, despite its sophistication, lacks a mechanism by which shippers can voice their concerns about their most critical issues: transit times and consistent shipping times. The effect of this lack of coordinated collective action is greatest on local traffic, but it likely affects gateway traffic as well.

32 At the time of writing, Halterm has been acquired by Macquarie Infrastructure Partners (a New York-based fund managed by the Macquarie Group, one of the world's largest owners and managers of infrastructure assets), raising the possibility that a new leader firm might transform the Halifax landscape. At the same time, Halifax has lost Maersk, one of its most valuable shipping lines. It remains to be seen whether the Macquarie acquisition can compensate for the loss of Maersk and provide significant leadership in coordinating collective action.

**Figure 4:** ***Port of Halifax Cluster***



# LESSONS FOR HALIFAX FROM LAZARDO CARDENAS

## Reforming Institutional Culture

The Port of Lázaro Cárdenas became an API in 1994, but a business development plan was not introduced until seven years later. This plan became a catalyst for change at the port, which diversified operations, strengthened connections with the city, and began an aggressive marketing campaign around the world. The opening of the container terminal, the establishment of solid infrastructure connections, and the dramatic increase in traffic were all influenced by this fundamental institutional transformation. The adoption of this style of business development plan by all other Mexican APIs demonstrates a recognition that this was an effective approach to changing the institutional culture and outlook of Mexican ports.

## Overcoming Infrastructure Limitations

Like Halifax, Lázaro Cárdenas has many natural advantages, but it began with limited infrastructure capability, which threatened to catch the port and its supply chain in an underdevelopment trap: without adequate freight-forwarding infrastructure, shipping lines would not call at a port; in turn, low traffic volume would mean that adequate transport infrastructure would not be built. Lázaro Cárdenas escaped such a trap, however, using a variety of mechanisms. First, it offered competitive tariff rates: an integrated tariff rate (per unit such as TEU) makes the total payable rate transparent to potential shippers. Thus, a low integrated tariff rate is highly attractive. Second, the port made aggressive attempts to attract leader firms with the ability to draw in infrastructure. Recall how Lázaro Cárdenas profited from the presence of KCS, which itself attracted Hutchison Port Holdings. Business management at the port (and the efforts of the state government of Michoacán) were both key agents in wooing KCS to Lázaro Cárdenas.

## Leader and Cluster Firms

In Lázaro Cárdenas, the business development team itself functions as a leader firm. The cluster that has formed over the past few years is based on the strong relationships built between the port administration and big firms that can then use their market power to market the port and leverage its options. Most notable is the strong relationship between the port administration and the rail company, KCS.

In Halifax, the interests of the port authority (and shippers and shipping lines) are not as closely aligned with the rail carrier. In part, this may expected of an established, multipurpose port serviced

by one of the largest rail carriers (in contrast to Lázaro Cárdenas, where a greenfield site is serviced by the smallest class 1 railway along its flagship line). In a renewed "gateway" function for Halifax, however, both CN and its associated cluster firms could make gains through greater cooperation.

## Preventing Business Fragmentation

Competition as a path to the development of an efficient port (and, by extension, maximum social benefit) is a powerful idea. But competition should not be used to nip the potential of nascent operations in the bud.

In Mexico, regulatory restrictions initially allowed container traffic to concentrate on a few ports, and encouraged specialization of those ports. In Halifax, one frequently hears discussions of a "third terminal" as a growth solution.[33] The lessons of Lázaro Cárdenas are valuable here: public efforts should go first toward utilizing capacity at the existing terminals. Another problem is that many of the existing shipping lines calling at Halifax are tied up in multi-year contracts with the terminal operators. So, while a third terminal might open up interesting opportunities for transhipment, it is doubtful that it could attract sufficient traffic to improve the port's gateway function.

## Marketing

Ultimately, the success of Lázaro Cárdenas has been based on aggressive marketing — a natural outcome of the entrepreneurial culture put in place there. Halifax has also enjoyed some marketing success, but the scale of growth has been nothing like that of its Mexican counterpart. For Halifax to be a truly successful gateway port, management must first believe in a gateway vision. It must then transmit this vision to shipping lines, terminal operators, and the railway.

33 Most recently, this has taken the form of an independent container terminal, to be developed in the Strait of Canso (see Taylor 2006). Another suggested alternative is an inland terminal (see MariNova Consulting Ltd. 2006).

# CONCLUSIONS AND RECOMMENDATIONS

Until three years ago, Lázaro Cárdenas was unknown as a container port. Its rail and road connections were inadequate to non-existent. Yet, through the efforts of interested stakeholders, it has become a successful container port. Undoubtedly, Lázaro has benefited from some exogenous trends: traffic from Asia is exceeding capacity at west coast US ports, changes in the Mexican rail industry created new possibilities for transport into the United States, and the strike at US west coast ports in 2002 made shipping lines realize the importance of having a contingency plan.

Yet, although these trends increased the port's potential, they cannot explain the development and rapid success of the container terminal. Part of the explanation lies in the dynamic approach to capturing market share that the business development team employed. An aggressive marketing campaign alerted shipping lines and terminal operators to the potential of the port long before the necessary transport infrastructure became available. During the 2002 US ports strike, this interest was regenerated, as shippers looked for alternate ports from which to forward their cargo into the US heartland. When KCS expanded its rail operations into Mexico, it was again the Lázaro Cárdenas business development team that convinced it to invest in the port.

Successful business initiatives, however, can take a port only so far. Ultimately, even the most dedicated and successful management is limited by the vision set by the board. In addition, the performance of the port authority is related to the strength of firms in the port cluster and to the governance of the cluster itself. Improvements in the governance and performance of a port can come about by improving the fit between the policy framework and the port environment. For its part, Lázaro Cárdenas was able to develop a burgeoning business despite its own problems of governance and administration. The business recommendations I outline below would help Halifax to maximize its opportunities within the current policy and governance framework.

## *Business Recommendations*

Deep reforms to the Port of Halifax will come about by changing its governance structure. But in the meantime, the current management has the ability to make several business reforms that could increase the port's attractiveness. The recommendations below assume that a gateway strategy is in place, but they do not call for fundamental institutional reform.

- *Introduce lower tariff rates*. Halifax's infrastructure limitations are best overcome by increasing port business. A low, integrated tariff rate would be very attractive to shippers. With increasing

demand, markets would respond with increased traffic, which, in turn would make further investments worthwhile for CN.

- *Provide more rail options*. CN's Intermodal Excellence strategy allows rail forwarding from Halifax to be economically profitable. Yet the rigidity of this system sometimes creates problems for shippers. CN cannot guarantee delivery times, especially for small producers. Regulation may not be an effective tool here, since regulations that force CN to carry traffic when shippers demand it would make the Halifax route a loss maker for the company. An alternative to this could be the Saint John–Maine–Montreal route, which is currently operated by the Montreal, Maine and Atlantic Railway. Currently, however, the route is unfeasible for most Halifax traffic — along some sections, trains can move at speeds of only 10 miles an hour. But with sufficient upgrades, this could be a viable alternative, particularly for small traffic coming out of Halifax. Though it would continue to be a slow, single-stack route that would not divert significant market share from CN, it would be a valuable contingency route for shippers using Halifax.

## Governance Recommendations

- *Educate board members*. Ongoing education sessions should be provided to make all board members aware of all the relevant port issues, since not all directors have an extensive background in these areas.
- *Emphasize the port's gateway role*. Historically, Halifax has been a hub port for local traffic and a dropoff point for European shuttles, among other things. These functions continue to be important, but large increases in traffic will come from its gateway role. Lázaro Cárdenas is using the boom in Asian exports to drive its growth. In Halifax, the board should emphasize the importance of exports from Asian countries and the possibilities they pose for the port.
- *Introduce a new gateway strategy*. Based on this information, the board should work together with senior management to create a new gateway strategy. The strategy should set ambitious goals.[35] New shipping routes calling at Halifax should be attracted by 2013, by which time the Panama Canal expansion will be complete and many other options will exist for Asian traffic.
- *Monitor management*. The board should hold senior management accountable for adhering to the strategy and ensuring its goals are met. It should also offer constructive criticism of management's accomplishments. The board's decisions to hire and fire the CEO and other senior executives should be based on performance.

## Cluster Governance Recommendations

- *Strengthen the voice of shippers and shipping lines*. Currently, the interest of shippers has limited expression in the Halifax Shipping Association (HSA). In turn, the association cannot act as

35 Given the urgent need for a new strategy, this should not be a slow, elaborate formulation. The strategy should draw on the existing formulations in the SmartPort but incorporate all the recent recommendations for positive change at the port.

a voice for all the problems of its members.[36] A stronger voice for shippers would benefit both shippers and the cluster as a whole. There are a number of ways in which this could be implemented. For example, cargo owners could be incorporated into the association; alternatively, a retail group such as the Canadian Retail Shippers Association could be represented in a cluster organization, such as the Halifax Gateway Council.

- *Strengthen connections among non-government actors in the cluster*. In the Lázaro Cárdenas cluster, the close relationship between the terminal operator (Hutchison) and the rail carrier (KCS) is striking. In Halifax, the rail carrier (CN) does not have the same relationship with terminal operators.[37] Shippers also feel their interests are not being taken into account. Yet, all these actors have a stake in the success of the port. Relationships among these agents could be strengthened through the port authority, for example, or through an independent association, while a new leader firm (such as a new terminal operator) could also change relations within the cluster.
- *Streamline or otherwise rationalize government agencies*. Figure 5 above shows that many government agencies are involved in the Halifax cluster. Some government involvement is necessary to ensure the public good; there may also be a case for government funding in order to maximize social benefits. But the involvement of so many government agencies may not be the best organizational structure for maximum social benefit. At the provincial level, the cluster would be better served if the port-related functions of the Nova Scotia Business Initiative, the Office of Economic Development, and the Department of Transportation and Public Works were combined in a single agency that would have better information about the various interests in the cluster. Some have argued that the public interest lies in seeing a separate "economic development" agenda housed in its own department. But modern business initiatives, particularly in the case of complex global businesses such as a port authority, cannot really separate economic development from business growth. The public interest is, in fact, best served when a single transparent agency is responsible for all government capital disbursement. This would also ensure that the provincial government has a coherent policy on the port. Under the current system, each government agency may have its own agenda or differing vision of port issues (this is true of the federal government as well). A single agency would also be a more straightforward option for private sector firms to turn to when coordination with government is required.

36 Consider the HSA's recommendations to the Canada Marine Act Review Board posted on the HSA web site. Only two issues are highlighted here: a request for representation in the Pilotage Authority Board, and a request that the Port of Halifax's commercial borrowing limit be raised. These are both important issues and the requests are valid, but it is unlikely that they represent all the changes that shippers would like to see in the *Canada Marine Act*. See web site: <http://www.hfxshippingassn.com/documents.html>.

37 Until recently, Halterm was under a joint management that included CN, but CN has since divested its interests in Halterm. While CN may enjoy a close working relationship with Ceres, it still does not have the same vested interest in terminal success that KCS has in Lázaro Cárdenas.

## Legislative Reform Recommendations

- *Allow greater revenue and finance generation*. Legislation should be amended to provide supplementary Letters Patent to port authorities to allow other sources of revenue generation. Specifically, port authorities should be allowed to issue corporate bonds and to offer for-profit subsidiary services, such as consulting. The additional revenue from such sources could help Halifax (and other Canada Port Authorities) incur capital expenditures and remain competitive with US ports.
- *Maintain caps on government borrowing*. One goal of port divestment was to reduce the burden on taxpayers. The recent failed attempt to amend the *Canada Marine Act* (Bill C-61) would have changed the rules of government borrowing for ports, replacing government grants with contributions. Ostensibly, "contributions" would have been available only for structured projects with valid business cases. Such a switch to contributions would be desirable, but the regulations on contributions should have strict eligibility requirements. The bulk of new capital would come from non-governmental sources. Several public gains would result from this approach. Governments could divert resources to other sources where they are better needed. From the port's point of view, investments would occur in proportion to the market demand for them (which causes private investment) rather than through the decisions of a government bureaucracy. Given the rapid economic and technological changes in the port business, private forces are more likely to result in the optimal level of investment.
- *Change the way board members are appointed*. The board should become fully independent. A good model for this might be the current arrangement in airports, where a process similar to the port reform process led to more real devolution of power. There, the minister of transport may appoint only a maximum of two directors, one on the recommendation of the provincial government and one on the recommendation of the municipal government, and all other newly elected board members must be nominated by the existing board or specified community groups.
- *Reduce payments to various levels of government*. Canada Port Authorities currently operate on government land and are required to make various payments to government (payments in lieu of taxes to municipalities, revenue tariffs to the federal government). Reducing this outflow to government would allow the port to charge more competitive tariff rates to shipping lines.

## A Final Word

Government policy cannot guarantee the success of a port. If this were the case, the public service port would be the most effective model. Even with a fully devolved port system, community stakeholders could still elect an incompetent board, or a highly motivated and effective board could still pick an unsuitable CEO or management team. But the correct policy mix could minimize these possibilities.

The example of Lázaro Cárdenas demonstrates that an effective business team can have dramatic results, even with a less-than-optimal governance model. Reforms to the governance of ports could produce positive results both in Lázaro Cárdenas and Halifax. Halifax has the potential to become one of the largest east coast ports serving the North American market. The recommendations above could go a long way to making this a reality.

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