

## **PART TWO**

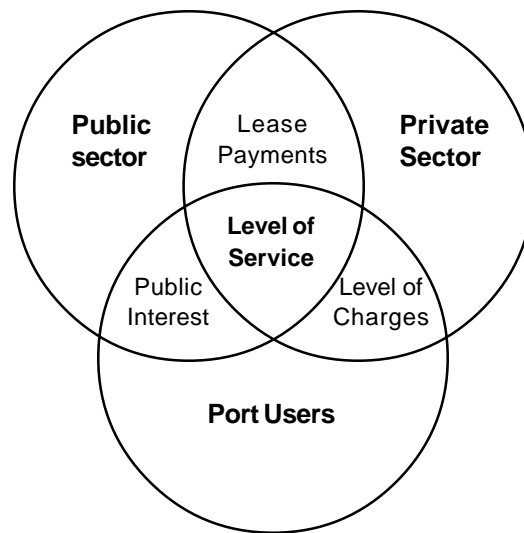
# **PORTS SECTOR REPORT**

## I. BACKGROUND

### A. In the Public Interest<sup>1</sup>

Ports have come to be associated with the public interest because of the concept that they should be accessible to all potential users and the benefits from the port should go to all citizens. Historically, countries such as France have maintained that ports should remain in the public sector while other countries such as England have allowed private dock companies to establish ports. According to French law, “public service” refers to services that are permanent, adapted to the needs of the user, and are to be provided equally to all users. Permanence refers to services to be provided without interruption. Equal provision argues against discrimination of individuals but not of situations.

**Figure 1: Interactions Between Public and Private Sector and Users**



Even where ports are to be operated in the public interest, that does not mean that they must be operated by the public sector with its civil service. Indeed, experience indicates that the public sector has considerable difficulty in adapting to the needs of the users and of ensuring that the service is permanent (i.e., free of interruption). The objectives of private sector management come closer to these objectives in many situations. Government retains the role of ensuring that these services are provided and in accordance with public consensus. Thus, the move towards privatization should be undertaken in such a way as to allocate responsibilities between the public and private sector, so as to ensure that the public interest is met. The interaction of the public and private sector and the port users is shown in Figure 1. The private sector is most effective in operating and maintaining ports, while government is most effective in setting policy and regulating the port sector. The role of the government extends to planning the port network, whereas the private sector implements individual port investments. The responsibility for finance should be based on which party has access to the least cost capital, taking into account not only interest rates but also competing demand for the capital.

<sup>1</sup> This section is derived from the Writings of J. Grosdidier de Matins.

## **B. The Cycle of Privatization**

The efforts to privatize the port sector have been touted as a new philosophy for managing this sector but may, in fact, be a return to an earlier philosophy. Historically, many of the ports of Europe and its colonies were developed in partnership with private trading and transportation companies. Government was involved in providing basic infrastructure, e.g., locks, and aids to navigation, but piers were developed by both government and the private sector. In Western Europe, municipal ports existed from early times. They were established to support the general commerce of a city and to provide public access to waterborne trade. The cargo-handling services were provided by the private sector.

This century saw the introduction of ports that were both developed and operated by government. This occurred in reaction to the monopoly practices of the private sector, especially railroads, in port operation.<sup>2</sup> Public operating ports provided significant advantages by opening new gateways, lowering the costs of transport, and supporting both the growth in trade and regional economic development. Over time, the public port managements became more politicized and less effective in controlling labor. They behaved more and more like inefficient monopolies unable to contain costs or provide the quality of service required by the shipping community. The higher costs due to this inefficiency were passed on to the users. Investments were made only when there was serious congestion, urgent political agendas or officials who benefited from the procurement. These problems provided the rationale for current port privatization efforts. In retrospect, this effort addresses some of the same issues that were addressed through the nationalization of ports during the earlier part of this century.

A similar, albeit shorter, cycle has occurred with the rise and fall of the national port authorities. These were established to coordinate planning, development, and funding for national port systems and to promote legislative initiatives favorable to the port sector.<sup>3</sup> These authorities were less effective in managing the maintenance and expansion of individual ports and in addressing the needs of port users. Now many countries are dismantling these national port authorities and unbundling the networks to allow better interaction between port management and port users.

## **C. The Failures of Public Ports**

Although some of the largest, most efficient ports in the world are public ports, relatively few are operated by the public sector. The enthusiasm for increasing private sector participation (PSP) in port operations derives from the failure of public port operations to meet the following objectives:

- To provide services which are efficient and cost-effective from the port users' perspective.
- To respond to changes in cargo-handling technologies.
- To respond to the changing requirements of the port users.
- To provide choices of services and foster competition.
- To make timely capital investment to improve efficiency and expand capacity.
- To generate the funds needed to finance investments.
- To enforce labor discipline in the face of strong trade unions.

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<sup>2</sup> Some of the public ports were created as a result of the nationalization of these railroads.

<sup>3</sup> The multilateral development banks (MDBs) had a significant role in encouraging the formation of these authorities as a mechanism to coordinate Port Planning and lending to the sector.

These failures are attributable to a number of management problems. Bureaucratic procedures were given precedence over the requirements of the users. Labor was able to use its political power to maintain inefficient work rules and cause work stoppages. Civil service could not provide the marketing capacity needed to promote the use of the port. Government procurement procedures encouraged under-investment in some ports and inefficient investments in others.<sup>4</sup> Public accounting systems did not allow for effective cost control systems. Central government regulation of tariffs led to cost-based pricing.<sup>5</sup> Efforts to reduce the size of government and the size of its deficit have made it more difficult to finance the renewal and expansion of port facilities to meet rapidly growing traffic volumes.

Despite these failures, the public sector continues to have an important role in serving the public interest. This includes ensuring safe and environmentally sound port operations, providing public access for markets that are too small to generate a profit, encouraging competition, and developing greenfield sites.

#### D. Standard Organizational Structures

The different approaches to organizing a public port are grouped into three organizational structures:

- **Resource (Tool) Port:** The port owns the land, infrastructure and fixed equipment, provides common-user berths and rents out equipment and space to cargo-handling companies and other commercial operators, on a short-term basis.
- **Operating (Service) Port:** The port provides not only infrastructure, berths and equipment but also services to the vessels and their cargo. This may be a public port as is the case of Dubai, Singapore, and Virginia Ports Authority or a private port as is the case of Felixstowe, Giao Tauro,<sup>6</sup> and Freeport.
- **Landlord Port:** The port owns the land and basic infrastructure but allows the private sector to lease out berths and backup areas either through a capital lease or concession agreement. This is the most common structure and is found in Rotterdam, Hamburg,<sup>7</sup> Los Angeles/Long Beach, Hong Kong, China<sup>8</sup> (Container Terminals), etc.

Many public ports involve a mix of these three as shown in Table 1. PSP is most extensive in the landlord and resource ports. In operating ports, it is generally limited to stevedoring and some vessel services.

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<sup>4</sup> Whether by paying too much or procuring inappropriate and unnecessary assets.

<sup>5</sup> Tariffs were set according to accounting formulae rather than value of the services provided. This approach was supported by MDBs even though the results were neither equitable nor economically sound.

<sup>6</sup> The Medcenter container terminal is currently a private concession negotiated with the Ministry of Finance but the port is expected to be converted to an Authority in the near future.

<sup>7</sup> Although technically Hamburg is a landlord port, it also has a public sector cargo handler which accounts for 60 percent of the cargo handling in the port.

<sup>8</sup> The terminals have been built on filled land by private operators under 99-year leases.

**Table 1: Major Ports in the Region Grouped by Type of Port**

<b>Tool</b>	<b>Service</b>	<b>Service-Landlord</b>	<b>Landlord</b>	<b>Tool-Landlord</b>
Cebu	Singapore	Nhava Sheva	Rotterdam	Manila
Davao	Bangkok	Bombay	Laem Chabang	Hong Kong
General Santos	Tanjong Priok	Chennai	Pusan	Karachi
Balikpapan	Penang	Colombo	Kwangyang	Qasim
Banjarmasin	Calcutta	Tianjin	Kelang	Sydney
		Shanghai	Bintulu	Perth
		Chittagong	Songkla/ Phuket	Aukland
			Kaoshiung	Surabaya
				Medan

Private ports differ from terminal concessions in that the land is owned by the private sector rather than the government. Traditionally, these ports have been owned either by cargo owners or transport companies. They are typically special-purpose cargo or passenger terminals with simple pier structures and limited infrastructure other than rail and road access. The special-purpose cargo terminals provide handling and storage services for their owner's vessels and/or cargo. Private passenger terminals are usually owned by the shipping lines. While many developing countries restrict private ports from handling third party cargo, there is a trend to remove this constraint as has been done in the United States (US) and Europe.

The market that a port serves has an impact on its organizational structure. Ports can be categorized according to their market as follows:

- **Local ports** serve less-developed areas of the country and provide access by domestic shipping to the major economic centers of the country.
- **Regional ports** serve the more developed hinterlands and provide a point of consolidation for cargos moving on domestic shipping to and from local ports.
- **National gateway ports** serve the major economic centers and act as the point of international shipment for imports and exports.
- **Trans-shipment ports** provide interchange points for international shipping lines rather serve particular hinterlands.

Most of the ports listed in Table 1 fit into the national gateway or trans-shipment categories. The extent of PSP varies for each category. Trans-shipment ports tend to be public landlord or private ports operated by shipping lines or international terminal operators. Gateway ports are usually landlord or service ports. PSP is increasing because of their large cargo volumes and because they serve international shipping lines and freight forwarders. Stevedoring companies, terminal operators and shipping lines are all interested in operating and investing in these ports. The larger regional ports are usually landlord or service ports while the smaller ones are service or resource ports. Local ports have a lower volume of traffic and less frequent vessel calls. The smaller local ports are resource ports with cargo-handling performed by local companies interested in Working under contract to the domestic shipping lines.

## II. FUTURE TRENDS

A number of changes are occurring in the ports and shipping sectors which are expected to have an impact on the port business and, specifically, on efforts to increase port PSP.

- **The expansion of the role of private ports** - This trend is important for countries where increasing private sector involvement in the major public ports is constrained by the resistance of management, labor, or both. It is also important where there are difficulties in revising the legal framework to permit additional private sector activity. Allowing the private sector to establish their own ports and to compete for third party cargo can be an effective strategy for improving the performance of inefficient public ports. The effectiveness of this strategy depends on the availability of low-cost sites for terminal development. The private sector requires sites that are located near to urban centers, require relatively little infrastructure and for which permits are easily obtained. The private sector will not invest in long approach channels or breakwaters without government guarantees for commercial risk.

In order to assume the risk of establishing new ports, the private sector requires a baseload traffic which will produce a positive cash flow within a few years of startup. Two of the more successful private sector port developments were the Panamanian port of Manzanilla and Freeport in the Bahamas. The former required relatively little infrastructure and had a baseload automobile traffic. The rapid increase in container traffic produced extremely high returns for its investors. Its success led the Panamanian Government to permit additional private port development and to concession out the container operations at its two major ports, Cristobal and Balboa. Freeport was a local port that was sold to the international terminal operator, Hong Kong International Terminals (HIT), and expanded to operate as an international trans-shipment hub. The new owner was able to attract baseload cargo from shipping lines that called at its other terminals. Neither port required extensive infrastructure development.

- **Continuing integration of transport modes and services** - The development of intermodal routes has increased interport competition for ship calls and cargo. It has also reduced the relative importance of ports in the logistics chain. The focus on door-to-door movements has changed the role of ports from a node for transferring cargo between modes to a link in the transport chain. As private transport companies have integrated their services across modes and shipping lines have become more concerned with the landside delivery of cargo, the port's clientele has changed from individual shippers and consignees to forwarders and transport companies. These companies apply international standards in their negotiations for better service and lower price. They exercise more authority in these negotiations and are strong advocates for increased private sector involvement in port operations.
- **Growing importance of alliances and mergers in the container shipping business** - The consolidation in the maritime shipping industry allows shipping lines to change routes, to reallocate their vessel fleet and adjust the frequency of calls in response to the performance of the ports as well as the markets that they serve. These alliances have greater power when negotiating with ports and terminal operators for better service and lower charges. The result has been that ports have fewer options to act as monopolies and are increasingly being penalized for their inefficiency.

- **Parallel development of large international terminal operators and small local terminal operating companies** - International companies, including HIT, P&O, Stevedoring Services of America, Singapore Ports Authority, and International Container Terminal Services, Inc. (ICTSI) (see Appendix 1), have become global competitors operating throughout Asia, the Mediterranean, Latin America, and more recently, Africa. They have now surpassed shipping lines as the major operators of private terminals.<sup>9</sup> These global operators generally partner with local companies. The latter develop their expertise in port operations and subsequently take on concessions in smaller ports.<sup>10</sup> The result is that there are an increasing number of international operators who compete for the tenders of major terminal concessions and a growing number of domestic operators competing for the smaller terminal concessions.
- **Renegotiation of terminal agreements** - For most countries, the first agreements for increased PSP were developed with very little legal precedence or strategic analysis. As a result, situations developed where the private operator:
  - had excessive control over cargo-handling activities within the port;
  - enjoyed a long-term agreement without providing significant investment;
  - failed to significantly improve the quality of service provided or to reduce the level of charges;
  - failed to attract significant new business;
  - did not achieve good utilization of port assets; and/or
  - went bankrupt.

In these situations, it was necessary for the public port to terminate the agreement or renegotiate. This has, so far, been a relatively rare occurrence. The termination of the original MICT terminal concession in the port of Manila occurred because the concessionaire was not able to operate the terminal efficiently.<sup>11</sup> Most other terminations have occurred due to the inability of the private party to work with the public sector. Viet Nam has had a number of agreements canceled for this reason.

Renegotiations also occur due to changes in the marketplace which place the private sector at a competitive disadvantage under the original terms of the agreement. For example, the renegotiation of the original terminal agreements in Laem Chabang occurred because existing concessionaires sought terms comparable to those negotiated with Evergreen in the lease for Terminal 4. The revision of the lease (treaty) agreements in Hong Kong, China as part of the negotiation for development of Terminal 9 sought to maintain the level of competition among the existing terminal operators while providing a more efficient allocation of the terminals.<sup>12</sup> Port Kelang is now revising its terminal lease agreements as a result of the merger of the two container terminal operators.

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<sup>9</sup> Sealand, American President Lines (now part of Neptune Orient Lines) and Maersk Lines, among others, continue to operate an extensive network of container terminals.

<sup>10</sup> For example, Asian Terminals International, which developed the container terminal in Manila's South Harbor, with P&O as a major partner, has now begun expanding its operations in the Philippines.

<sup>11</sup> The original operators were cronies of former President Marcos and were removed following his removal from office. The subsequent operators, ICTSI, provided efficient services and invested to meet growing demand.

<sup>12</sup> It was also designed to remove one of the potential operators due to strong opposition from the People's Republic of China (PRC).

Other causes for renegotiation are unrealistic requirements for investment, and the failure of government to approve changes in port charges. The former led to a revision in the toll road concessions for Mexico and railroad concessions in Argentina, among others. It has been less common in ports but was the likely cause for the failure of Karachi to reach closure on its proposed container concession.

Agreements which require the private sector to meet specific volume and performance traffic targets or to pay annual fees based on these targets can also lead to renegotiation. So far, this has been avoided due to strong growth in traffic, but is likely to occur if the current, increasingly global, economic recession continues. A prime example is the concession for TECON in Santos which requires a major reduction in charges to be achieved though a significant reform of labor. These reforms are proving problematic and the downturn in traffic will make it more difficult to cover the concessionaires fixed costs.

Contract modifications are inevitable given the changing patterns of trade and traffic, the nonperformance of some operators and the unprofitability of concessions. A willingness on the part of the government to renegotiate long-term contracts will become increasingly important.<sup>13</sup>

Other trends that are expected to affect the relationship between the public port and the private sector include changes in participants and procedures. For example:

- **Shipping lines are becoming more involved in terminal operations** because the volume of their cargo, especially for the alliances, justifies the investment in fixed assets. Maritime shipping continues to produce low returns, but port terminals can produce healthy returns even in competitive situations. The recent development of a Maersk/Sealand trans-shipment terminal in Port Rasyut, Oman and the Evergreen terminal in Coco Solo, Panama are examples of this trend.
- **The entrance of a second group of international operators into** the bidding for concessions, most notably the public ports of Singapore and Dubai and the larger European terminal operators. These are quasi-government corporations which are looking to expand beyond their home markets. PSA has made a major financial commitment to acquire a number of concessions in order to catch up with the other international operators. Dubai has taken on the concession for the new port south of Beirut. The European operators have started cautiously, focusing initially on the Mediterranean and East Europe. Hessianatie's failed effort in Montevideo will mean greater caution in bidding for terminals in developing countries.
- **The tendering process and legal format for leases and concessions have become well established through international practice.** The starting point for most contracts is based on the format used in other countries. In each country, the first agreement with the private sector (first subcontract, first lease, or first concession) will always be traumatic. It involves a lengthy process in order to take into account the vested interests of labor, port management, and government officials. The negotiations following the award of contract can be protracted and

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<sup>13</sup> The alternative is to reduce the period of the agreements. Neither government nor the terminal operators are generally willing to accept this approach.

political in nature. However, over time, contracts become simpler as legal precedence and the mechanisms for dispute resolution are established.

- **A broader range of finance will be mobilized by the government and the private sector.** The development of domestic long-term capital markets and improved access to international capital markets will give both government and the private sector greater access to low-cost, long-term finance. Although the international operators continue to rely primarily on commercial loans, it is expected that bonds will be increasingly important, especially where the government continues to be involved as part of a joint venture.
- **The market for terminal concessions is beginning to mature.** The international terminal operators are becoming more cautious in bidding for concessions in developing countries because of the high cost and considerable commitment of management time to prepare these bids. They are increasingly reluctant to bid where there is a lack of transparency or where the terms of the concession introduce excessive risk. At the same time, the growing number of competing bidders has made the bidding more competitive and reduced the potential return.<sup>14</sup>

Bidders have been willing to accept tenders with less than favorable terms where the size of the facilities and the traffic was sufficient to justify the risk. Now that most of the large, heavily-utilized facilities have been bid out, the bidders will be more discriminating. There are now an increasing number of failed bids that have had to be revised or canceled. Aden, Colombo, Montevideo, Sepetiba, Subic, Tianjin, and others have seen the market reject their bids or have seen major bidders withdraw because of unacceptable terms.

### III. INSTITUTIONAL REFORM IN PUBLIC PORT MANAGEMENT

The transformation of public port management from government bureaucracy to commercial organization has occurred in many developing countries over the last quarter century. Typical reform efforts have three stages: decentralization, commercialization, and corporatization.

#### A. Decentralization

The policy of centralized control of national port networks was introduced in the 1960's, as a mechanism for coordinating the physical development of national port networks and avoiding wasteful competition and over-investment. The national port organizations were expected to promote trade and provide economic development for the hinterland. At one extreme, there was Mexico's unsuccessful attempt to construct ports as growth poles for regional economic development. At the other extreme, there was Indonesia's attempt to limit the number of gateways through which the commerce of the archipelago could move. These strategies were successful in channeling large amounts of investment to specific ports. They did not develop ports that were operationally efficient, financially self-sufficient or client-oriented. They produced public monopolies with increasing costs that were passed on to the port users.

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<sup>14</sup> The ranks of the bidders have been increased by the arrival of more bidders who rely on political influence and others who are willing to take considerable risks. In some bids, the final bid price has been more than 50 percent above the expected price or the next highest bid. While this increases the returns to the port, it also places these concessions on shaky financial ground unless charges to port users can be increased or the agreement can be later renegotiated.

Most national port organizations were located in the capital city, far from the major ports, and were staffed with persons not involved in port operations or customer service. The ports, on the other hand, were staffed with people who worked on the wharfs and were familiar with the needs of the users.<sup>15</sup>

To overcome the inadequacies of centralized port organizations, most developing countries have decentralized their port systems or are in the process of doing so. This process begins with the creation of autonomous port authorities for the larger ports. The responsibility for management of the minor ports is then transferred to provincial and municipal governments or to the major ports through the formation of port clusters. The benefits from this reform can be considerable. While the individual ports may lack the concentration of technical expertise and financial strength of a central authority, they have a closer association with the users and greater familiarity with the needs of the trade. In the case of port clusters, a balance is established allowing concentration of expertise in the major ports together with client oriented management of operations in minor ports. This arrangement has been relatively successful in Indonesia, where the port corporations have considerable autonomy but not in the Philippines where the authority has been centralized in Manila.

Table 2 shows the extent of decentralization of the national port system for the countries of the region. The effectiveness of decentralization depends on the level of managerial and financial autonomy given to the individual ports. The central government can limit autonomy by continuing to select the key management personnel. It is normal for the government to appoint the chairman of the major public ports and some of the board members. However, many governments go beyond this and appoint the first tier of management, i.e., the chief executive officer and the heads of finance/accounting, operations, audit, and administration, as well as the harbor master.<sup>16</sup> This practice hinders the establishment of a cadre of professional port managers.<sup>17</sup> The countries that have been most successful in developing professional public port management, e.g., Korea, Singapore, and Taipei, China, fill senior management positions through meritocracy.

Governments can further limit the effectiveness of decentralization by regulating manning levels, wages and tariffs, major procurement, and competition with other national ports. Each regulation will introduce distortions in the market place. Although nearly all of the region's public ports prepare their own budgets and financial statements, most require government approval for capital investments and changes in tariffs.

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<sup>15</sup> The obvious counter-examples, the national port authorities of Dubai and Singapore, are located adjacent to the port, manage only one port (Rashid and Jebel Ali are combined) and have a corporate culture focused on efficient operation rather than administration.

<sup>16</sup> This is done as individual appointments or by appointing the chief executive officer and allowing him/her to appoint a management team.

<sup>17</sup> This is not to say that there are not extremely competent managers in each of the countries, but rather that the selection and assignment of managers is based more on political considerations than merit. Fortunately, the practice of frequent rotation of management personnel among ports appears to be dying out.

**Table 2: Degree of Centralization of National Port Systems in Asia**

National Port Authority	Regional Port Clusters	Provincial Municipal Ports	Separate Authorities/Trusts
Philippines <sup>a</sup>	Indonesia	PRC	Malaysia
Thailand <sup>b</sup>			Singapore
Sri Lanka			PRC
Korea			India
			Pakistan
			Bangladesh

<sup>a</sup> There is a separate authority for Cebu and more are expected.

<sup>b</sup> In the process of forming an authority for Laem Chabang, and two other ports under separate management.

The extent to which a port network can be decentralized is often limited by financial constraints. Most networks contain a mix of profitable and unprofitable ports. The latter are maintained to provide critical public access, especially in the archipelagic countries. The unprofitable ports can be transferred to local governments, which assume responsibility for the subsidy or can be combined with profitable ports, as mentioned above, concerning minor ports. Indonesia succeeded in creating financially autonomous regional clusters with independent tariffs but the Philippines continues to control the public ports through an extensive bureaucracy headquartered in Manila, with central pricing and an elaborate system of cross-subsidies. India's Major Port Trusts rely on a complex system of interport lending through which the profitable ports subsidize the marginal ports. The minor ports are maintained by the provincial governments. Tariffs are set at the port level, but are subject to review by a national regulatory body. PRC has created separate port authorities for its major ports. Many have holding companies for an array of services including warehousing, stevedoring, freight forwarding and ship agencies. They are profitable and finance their own investments, but have considerable overheads and cross-subsidies. Minor ports are under the control of the provincial governments. The Korean ports have an overlapping system of management. Individual ports are separately managed and maintain their own accounts but all major developments and capital investments are controlled by the Ministry of Maritime Affairs and Fisheries acting through the Maritime and Port Administration. Prices are established by the ports, subject to ministerial approval.

## **B. Commercialization**

Even after decentralization, there remains the tendency for the autonomous ports to develop their own bureaucratic procedures and to exercise monopoly power within their hinterland. Commercial behavior requires port managements to become more accessible to port users, more aware of their needs and able to respond to them. The public sector discourages this behavior because it implies differentiation among users in the form of:

- The quality of service provided.
- Prices that reflect the value of services received rather than the costs of supplying these services.
- Discounts and preferential access to assets as a reward for efficiency.
- Promoting profitable growing businesses and discouraging unprofitable ones.

Most efforts to commercialize port managements have been limited to improving management systems. This begins with the introduction of commercial accounts and development of management objectives for financial performance and utilization of assets. It is followed by reorganization of cost centers and business units with responsibility for financial performance devolved to the managers of these units. Parallel efforts are being made to strengthen recruitment and training of personnel and to increase compensation for managers. Computerization is used to develop integrated management information systems, electronic document interchange (EDI), and automated cargo-tracking and billing systems. These efforts are primarily process-oriented and fail to directly address the need for commercial management objectives.

The most effective means for commercialization of port managements remains the introduction of competition - between service providers within the ports and then among ports serving the same hinterland.<sup>18</sup> Under a competitive regime, managers must pay greater attention to the needs of their users and match the prices and the quality of service offered by competitors. This requires a change in paradigm from an administration operating with bureaucratic procedures to a management that responds to market demands for better and less-costly services. The steady increase in competition in the port sector, and in maritime transport in general, has produced a dramatic decline in the cost for transport services worldwide.

In a competitive environment, public port managements look to the private sector to provide commercial management. Government regulations that discourage commercial behavior can be circumvented by the private sector when operating under contract to the public port management. Management contracts, capital leases and open competition allow the private sector to improve the efficiency of port services and reduce their operating costs. Concessions allow the private sector to invest in order to improve the quality of service and to price port facilities so as to improve their utilization. The granting of terminal concessions can also be used to provide competition for public sector operations, as has been done in Colombo, Laem Chabang, and Nhava Sheva.

### **C. Corporatization**

The third phase of institutional reform is the conversion of port authorities into stock corporations that operate under corporate law rather than civil service regulations. The conversion is often preceded by the separation of the authority into a planning/regulatory agency and an operating company. The former holds title to the land while the latter holds a concession for the land and a right to provide port services. The operating company begins as a government-owned stock company. A portion of this stock may then be sold to the public in order to recover the government's capital investments or to raise funds for future investments. The government can continue to sell shares but retain sufficient shares to allow it to influence corporate policy.

In the United Kingdom (UK), the ports were reorganized as private corporations to reduce public sector involvement in port investment and operations. In Western Europe, they remain as semi-autonomous units of the municipal governments, but consideration is being given to forming port corporations, e.g., Antwerp. In the last two decades, a number of port

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<sup>18</sup> The latter is given preference in North America and Western Europe since there is strong local interest in preserving monopoly activities within the port.

corporations have also been established in developing countries. The port corporations in Malaysia were among the first and have provided one of the better models for such reforms. The Port of Singapore has recently been converted to a corporation but this was for financial reasons rather than to improve efficiency.<sup>19</sup>

While corporatization increases management autonomy and commercial orientation of public ports, the same can be accomplished with the creation of port authorities. In North America, most ports are public authorities. They operate on a commercial basis.<sup>20</sup> Another alternative to corporatization is the formation of autonomous subsidiaries responsible for specific activities of the ports. The ports of PRC have made increasing use of joint ventures to establish private corporations that will operate individual terminals. Port Kelang pioneered this method in the mid 80's when it put its container terminal under semi-private operation.

#### **IV. STRATEGIES AND OBJECTIVES**

The best practices for port privatization does not involve the selection of a preferred contractual arrangement between the public and private sector. Instead, best practices requires the selection, on a port-by-port basis, from among a number of different arrangements. The selection should be made based on a clear statement of the objectives of increasing PSP.

##### **A. Unique Characteristics of Ports**

Any discussion of strategies for increasing PSP in the operation and development of ports must begin with a consideration of the unique characteristics of ports. Like utilities, the basic infrastructure is long-lived and costly. Unlike utilities, ports provide a wide variety of services rather than a few specific products. Also, there is the long tradition of private sector involvement in most of these services. Other important characteristics are:

- Considerable opportunities exist for unbundling of services.
- Ports can accommodate multiple providers of both complementary and competing services.
- The productivity of land, labor and capital has been steadily increasing. The size of transport units, especially ships, has been increasing.
- Ports are land-extensive and increasingly capital-intensive.
- The majority of costs are fixed.
- Significant economies of scale exist for both the providers and users of port services.
- Profitability generally increases with the size and level of activity.

The first four items suggest an industry that has benefited from considerable improvement in efficiency and competition. The next four suggest an environment in which there will be natural monopolies.

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<sup>19</sup> As a corporation, PSA can make better use of its cash reserves and can raise funds for investments in overseas port concessions, e.g., US\$250 million in notes recently issued.

<sup>20</sup> Albeit with financial subsidies through access to public borrowing.

## B. Strategies

A number of strategies are available for increasing PSP in port activities. These can be grouped into four categories, (i) outsourcing, (ii) restructuring, (iii) partial divestiture, and (iv) complete divestiture. The principal agreements used to implement these strategies are shown in Table 3. The strategies allow the public port either to continue active involvement in port activities or to limit its participation to enforcement of the contract terms and government regulations.

The choice of an appropriate strategy depends not only on the port's objectives and the legal changes required to effect these strategies but also on:

- The services most in need of private sector management.
- The scale of these services and the potential for creating financially viable activities.
- The current level of private sector involvement in other port-related activities.
- The capacity of the private sector to provide skilled labor and manage large commercial operations.
- The level of commitment of the government to the reforms which must accompany these strategies.
- The government's capacity for technical and economic regulation.
- The extent of corruption within the port and the government.
- The competitiveness of the private sector.

Those services which the public port is least effective in providing should be given priority. The potential for creating competitive, financially viable services must be matched with the capacity of the private sector to provide efficient ports services. The private sector's level of interest in competing for a contract to provide these services will depend not only on their financial viability but also on the government's ability to conduct a transparent and competitive bidding process and to undertake the complementary reforms ports require to provide efficient services

**Table 3: Agreements for Increased PSP**

Strategy	Agreements with Limited Port Oversight	Agreements with Active Port Involvement
Outsourcing	Franchises	Subcontracting Labor and Services Management Contract Equipment Leasing
Major Restructuring	Capital Leases Open Competition	Wholly-owned Subsidiaries
Partial Divestiture	Concessions Long-term Leases Sale of Major Assets	Minority Equity Partners Joint Ventures Special Purpose Companies
Full Divestiture	Sale of Business Unrestricted Private Ports Capitalized Long-term Leases	Publicly-traded Stock Company

## 1. Outsourcing

Outsourcing involves the transfer of specific port activities from the public sector to the private sector while permitting the port to function as an operating port. The port reduces operating costs and increases efficiency by utilizing private companies to supply labor and equipment and to perform specific services. A wide range of port services and activities can be outsourced, most notably those listed in Table 4. Four types of agreements can be used to implement this strategy. The first two are subcontracting and franchising. With the former, the port contracts the private sector to perform the services that the port offers to its users. With franchising, the private sector provides these services directly to the port users but under terms and conditions specified by the port.

The other two types of agreements are management contracts and equipment leases. The former allows the port to contract with the private sector to manage specific services utilizing the port's equipment and labor. The latter transfers responsibility for the maintenance, and sometimes operation, of cargo-handling equipment to the private sector. The port utilizes this equipment to provide services to its users.

**Table 4: Port Functions**

<ul style="list-style-type: none"> <li>• <b>Cargo</b></li> <li>Stevedoring, Longshoring</li> <li>Equipment Operations</li> <li>Transit Storage</li> <li>Receiving and Delivery</li> <li>Cargo Tracking</li> <li>Consolidation, Unitization</li> <li>Warehousing</li> <li>Assembly and Processing</li> <li>Land Transport Barging</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Infrastructure</b></li> <li>Hydrographic Surveys</li> <li>Dredging</li> <li>Repair and Maintenance</li> <li>Engineering Design</li> <li>New Construction</li> <li>Equipment Procurement</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Vessel</b></li> <li>Navigational Aids</li> <li>Pilotage</li> <li>Towage</li> <li>Bunkering</li> <li>Utilities, Garbage Removal</li> <li>Stowage, Planning</li> <li>Anchorage, Buoys</li> <li>Launch Services</li> <li>Vessel Repair</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Marketing</b></li> <li>Market Research</li> <li>Promotion and Sales</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Management</b></li> <li>Billing Accounting</li> <li>Data Processing Staffing</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Security</b></li> <li>Security Forces</li> <li>Fire and Rescue</li> <li>Pollution Control</li> </ul>

## 2. Restructuring

Restructuring involves the transfer of the port's core businesses to the private sector without transferring ownership of the port's major capital assets. The most common arrangement is the leasing of the port's cargo-handling facilities together with the licensing of the right to provide services to private parties. The port transfers the responsibility for maintenance of the facility and for collection of cargo-handling charges. In exchange, the private sector pays stipulated fees to the port. Under this agreement, the port no longer interacts

directly with the port users but retains some regulatory authority over the quality and pricing of services. By transferring responsibility for operations and maintenance, the port can restructure its organization to focus on administration and planning.

Alternatively, the port can form wholly-owned subsidiaries that operate as commercial enterprises. This approach is less common because most countries require that subsidiaries of public ports also operate as public service entities. A number of ports have created subsidiaries to provide professional services to other ports. Less common are subsidiaries that provide cargo-handling services. Some of the container terminal operating companies in Korean and Chinese ports are effectively independent subsidiaries.

A third approach to restructuring is to allow open competition by private companies in the provision of the services associated with the core businesses. The public port provides the basic infrastructure, while the private companies provide mobile equipment and some complementary facilities.<sup>21</sup>

### **3. Full Divestiture**

Full divestiture involves the permanent transfer of port assets along with operational responsibilities. Full privatization of a public port includes the transfer of land ownership. This arrangement is relatively uncommon for a variety of reasons, not the least of which one is the difficulty in transferring government land to the private sector.<sup>22</sup> Most countries allow the private sector to establish private ports on their own land, but primarily to handle their own cargo. Recently, efforts have been made to allow private ports to compete with public ports for third party cargo.<sup>23</sup>

Some port privatization initiatives have involved conversion of public ports to publicly traded corporations (the final step of corporatization). The government retains ownership of the land but provides a concession to the corporation to maintain, operate, and expand the port. This permits private financing of port investment. The government often maintains some influence over corporate policy through its control of voting stock<sup>24</sup> but ownership is passed to the private market.

Another arrangement, which approximates full divestiture, is a long-term capital lease (50-99 years) with the lease payments made up-front (as was done with the recent privatization of airports in Australia). This allows the government to fulfill its obligation with regard to ultimate ownership of the land while obtaining payment for the value of the land. Even when only part of the payment is made up-front, these leases often resemble full divestiture, as is the case for the container terminals in Hong Kong, China. The water rights are leased to the terminal operators for a period of 100 years but the operator must construct the terminal, including reclamation of the site.

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<sup>21</sup> Towage is often provided in a competitive market. Individual companies provide vessels and workshops to support their vessels. For general cargo stevedoring, the private sector often provides the services and yard equipment and operates on common-user berths. In Chile and other countries, this arrangement is also used for container handling services.

<sup>22</sup> To date only the UK has introduced full privatization of its public ports.

<sup>23</sup> In India, private ports are being established under license of the provincial governments to handle third party cargo. The Philippines has modified its port laws to permit private ports to compete with the public ports but protects the latter by maintaining operating subsidies for most of the ports and taxing the private ports.

<sup>24</sup> This is accomplished by issuing different classes of voting stock or providing government with golden shares.

#### 4. Partial Divestiture

Partial divestiture involves the transfer of assets for an extended period or joint ownership between the public sector and private investors. While few public ports have been willing, or able, to sell their land, many have entered into concession contracts of 20-40 years.<sup>25</sup> Although these concessions require that the assets revert to the port, most of the investments have exceeded their technological life by the end of the agreements.<sup>26</sup> Various contractual agreements for this transfer have been established, some occurring at the beginning of the concession (build-transfer-operate agreements) and some at the end (build-operate-transfer and build-own-operate-transfer). The port retains ownership of the land and basic infrastructure throughout the period of the agreement.<sup>27</sup>

Since there is little likelihood that the port will resume operations at the end of these agreements, the port management effectively limits its involvement to administering the tendering process and the contracts. Because the period between tenders often exceeds the tenure of the management staff, there is little distinction between concessions and sale of all assets, including land.

If the port wishes to be actively involved following the divestiture, it can participate in a joint venture with the private sector, as was done with the initial concession at Port Kelang and has since become popular in PRC and Viet Nam. Most of these arrangements require the creation of special-purpose companies that allow the port and their private sector partners to make capital investments using project finance.

#### C. Port Objectives

The basic goal of government in increasing private participation is to establish a more competitive and financially sustainable system of ports. In order to pursue this goal more effectively, it is necessary to select from among the four strategies mentioned above. This selection should be consistent not only with the basic goal of the government but also with its specific objectives for promoting the role of the private sector in port operations and investment. Specific objectives of the central government that are frequently mentioned include:

- Increase operational efficiency.
- Promote competition among ports and terminals.
- Accelerate growth of traffic.
- Provide private financing of public infrastructure.
- Improve the quality and capacity of infrastructure.
- Reduce operating subsidies.
- Reduce the national deficit.
- Downsize government bureaucracy.

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<sup>25</sup> These include the B-rated options, build-own-operate, build-operate-transfer, build-own-operate-transfer, build-transfer-operate, build-lease-transfer, etc.

<sup>26</sup> For example, a 150-175 meter general cargo berth constructed in the early 1960's would have little value today other than to handle short sea feeder vessels or marginal cargos. Some contractual agreements require replacement of assets towards the end of the period, but this may not be appropriate if the technology and the trade have made these assets obsolescent.

<sup>27</sup> The distinction between partial and full divestiture is at best vague. Here the focus is on not only the length of the agreement but also the divestiture of future management responsibility for the activities being transferred to the private sector.

- Depoliticize port management and labor.
- Promote equity ownership.

Most of these objectives can be accomplished through more than one of the basic strategies mentioned above. A mapping of the contractual arrangements for each strategy onto these objectives is shown in Table 5.

Once a strategy has been chosen, the selection of a specific contractual agreement depends on:

- The rigidity of labor and extent of restrictive work practices.
- Legal constraints on transferring the obligations of the public ports.
- The level of competition that the traffic will support.
- The capacity of the domestic long-term capital markets.
- Legal precedence for this type of contract and tendering process.

The process of selection should be relatively straightforward. It only becomes complex when objectives are vague, the port and/or government suffer from severe corruption, or the private sector is weak.

## **1. Efficiency**

Improving operational efficiency requires increasing productivity and utilization of both capital and labor. Outsourcing focuses specifically on this objective. The other strategies in Table 5 are intended to pursue other objectives. Whichever strategy is applied, it is important to identify the causes of inefficiency first.<sup>28</sup> The primary impediments to increased efficiency are:

- Restrictive labor practices.
- Lack of incentives to increase throughput.
- Poorly maintained, insufficient or technologically obsolescent facilities and equipment.
- Ineffective allocation of port resources to specific activities.
- Inadequate supervision of the use of these resources.
- Insufficient coordination between complementary activities or inefficient complementary activities, some of which may be outside of the control of the port (i.e., customs, railways).

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<sup>28</sup> Privatization is often treated in the same way as a broad spectrum antibiotic. To be prescribed when the specific causes of the disease have not been isolated. The results are generally positive but less effective than a narrow spectrum antibiotic and there exists the chance that certain problems will remain and become more resistant to treatment.

**Table 5: Matrix of Objectives and the Contractual Agreements for Increased PSP**

<b>Contractual Agreements Objectives</b>	<b>Improve Operational Efficiency</b>	<b>Accelerate Traffic Growth</b>	<b>Attract Private Investment</b>	<b>Reduce Operating Subsidies</b>	<b>Reduce Government Deficits</b>	<b>Reduce Downsize Government</b>	<b>Depoliticise Labor and Management</b>	<b>Promote Public Ownership</b>
Franchises	••	•••	•	•	••	••	•	•
Subcontract Labor and Management Contracts	•••	•	•	••		••	••	
Equipment Leasing	••	••	••	•			•	
Capital Leases	••	••	••	••	••	••	••	
Open Competition	•••	••	••	••		••	•••	•
Wholly-owned Subsidiaries	•			••		•	••	
Concessions	••	•••	•••	•••	••	•••	•••	•
Long-term Leases	••	•••	••	•••	••	••	•••	•
Sale of Major Assets	••	•	•	•	•••	•	•••	
Joint Ventures	••	••	••	••		•	••	•
Minority Equity Partners	••	•	••				••	•
Special Purpose Companies	••		••	••			••	•
Port Privatization	•••	••	•••	•••	•••			
Unrestricted Private Ports	•	•••	•••			••	•	••
Publicly-traded Stock Company	••	••	•••	••	•••	••	•••	•••

••• = Direct and Potentially Significant Impact; •• = Direct Impact; • = Indirect Impact

Contractual agreements to overcome the first two should focus on labor. Singapore modernized its cargo-handling labor force prior to transferring those not critical to terminal operations to the private sector. Efforts in the Philippines and Indonesia to improve breakbulk cargo-handling productivity through private cargo-handling companies have not been as successful because the market forces did not encourage the private stevedoring companies to invest in modern cargo-handling equipment. The success of many efforts at partial or complete divestiture has depended on increasing labor efficiency. Both the UK and New Zealand undertook to reform labor prior to privatization since the government was stronger than private employers in dealing with labor. In Mexico and Australia, the opposite was the case. The agreements used in Buenos Aires, Laem Chabang, and Port Kelang allowed the concessionaires to employ only the amount of port labor that was efficient. The remainder was absorbed into the port administration or given early retirement. The major ports of India and Sri Lanka have been unable to resolve the problem of excess labor and have had to limit their divestitures to new facilities.

The third impediment, poor maintenance and failure to upgrade facilities and equipment, can be addressed through capital leases or concessions.<sup>29</sup> This has been clearly demonstrated in the Philippines, where the private concessions have been able to maintain their facilities while the common-user facilities have steadily deteriorated, despite attempts to rehabilitate them.

The last three impediments are problems that require a change in management. Outsourcing of marine services and dredging has improved efficiency in those activities where open competition was not possible, but outsourcing of cargo-handling services has had mixed results because of problems of introducing modern equipment as mentioned above. Management contracts have had limited success because they do not resolve problems of equipment procurement and maintenance or restrictive labor practices. Restructuring and divestiture transfer the complete range of responsibilities to the private sector giving the new management a better opportunity for introducing improvements.

The effectiveness of private management will depend, in part, on the extent of competition with other suppliers of port services. In Thailand, the Government attempted to introduce competition by allowing private terminals on the other side of the Chao Phya River from the Port of Bangkok. Unfortunately, limits were placed on their throughput and they had a competitive advantage being located away from the city. Nevertheless, these terminals were able to capture a significant part of the market. More recently, the terminal concessions in Laem Chabang created sufficient competition for Bangkok to cause that notoriously congested port to improve its facilities and operation.

## **2. Growth**

The objective of increasing traffic is achieved by increasing the market share in existing businesses and by entering into new businesses. The former requires an understanding of how to achieve competitive advantage and the sensitivity of potential users to changes in service quality and charges. The latter requires management to seek out potential markets and to risk in developing new services that will attract this demand. These initiatives must be complemented

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<sup>29</sup> However, government procurement procedures requiring lowest price bidder have problems with developing meaningful performance measures.

by more aggressive promotion and greater client orientation. The strategy of outsourcing can be used to improve the quality of services and lower the cost. It can also be used to provide commercial marketing and promote port services.<sup>30</sup> However, this still requires the port to take the commercial risks. Restructuring, especially where this leads to open competition for port services, leads to an increase in market share as the private sector attempts to increase profits. The strategy of partial and complete divestiture provides additional incentives for the private sector to increase the utilization of port assets and the rate of return on their investment.<sup>31</sup>

The objective of increasing traffic offers the greatest economic benefit to the nation but is rarely the port's principal objective. Agreements that contain minimum volume guarantees are generally designed to produce a minimum level of royalty payment rather than an actual increase in traffic. In Subic Bay, growth in traffic was the primary objective of the container terminal concession. The well-documented problems in bringing this concession to closure derived from the belief that the winning bidder was not interested in the growth of the port but only excluding competitors. This problem has been observed in a number of concession agreements, most notably in Vera Cruz, and is discussed in more detail below.

### **3. Financial Objectives**

The financial objectives are concerned with reducing public sector spending by minimizing operating costs so as to reduce operating subsidies, and by mobilizing private sector funds, both domestic and international, to finance capital investments. Divestiture, either partial or complete, is used to mobilize private finance. Concession agreements have been the most popular method to finance new terminals, e.g., the grain terminal in Manila, steel terminal in Argentina, and container terminals in Nhava Sheva, Colombo and the second phase of Laem Chabang.<sup>32</sup> The public port can also mobilize private funds by issuing debentures but this adds to the government's liabilities.

The objective of reducing operating subsidies applies to ports which are poorly managed or which have insufficient traffic to be profitable. Outsourcing can be applied to reduce their costs. Smaller resource ports, which are maintained to provide lifeline services, usually rely on the private sector for cargo-handling activities. The shipping lines hire casual labor to service the occasional vessel calls. This strategy is applied in the tertiary ports in the Philippines, Indonesia, and the South Pacific. The maintenance of the facilities is also outsourced but through contracts to rehabilitate the facilities and replace the equipment that has not been maintained. For these ports, the strategy of partial divestiture can be employed. The government can offer concessions for the unprofitable ports, either as individual ports or groups of ports, with the bids evaluated according to the level of subsidy required. This objective has been applied in privatization of small airports and unprofitable railroad services that are maintained as Public Service Obligations. It has yet to be applied in the port sector.

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<sup>30</sup> The US port of Charleston has outsourced its regional marketing, Jardine is attempting to provide marketing services for US ports in Asia.

<sup>31</sup> There is always a risk that the private sector may choose to limit its risk by concentrating on a few businesses and clients while ignoring other port market opportunities.

<sup>32</sup> These are not always successful. Tanjung Priok used a concession to provide additional capacity, but the terminal was not competitively bid. It was given to one of the president's sons with the government accepting considerable contingent liabilities.

#### **4. Government Deficits**

The objective of reducing the government deficit is usually meant to provide a one-time reduction in the government's annual deficit to meet macro-economic targets required by lenders or international monetary authorities. This objective has been introduced in various countries as part of the International Monetary Fund requirements.<sup>33</sup> It has been very popular with Latin America governments, which need to reduce their foreign currency debt. It has also been important in Western Europe, though not in the port sector, as countries have sought to reduce their deficits in order to meet European Union (EU) requirements. The reduction of the national deficit is usually accomplished by partial or complete divestiture involving the sale of port assets or shares in the port corporation.

#### **5. Downsizing**

The objective of downsizing includes reducing the size of the government bureaucracy and the range of activities for which the government is responsible. For operating ports, this requires that both port employees and services be transferred to the private sector. All four strategies can be used to accomplish this. Outsourcing contracts can be used to transfer port labor but only where they are sufficiently long term to justify the expense to the private sector. For example, the vessel crews can be transferred with the vessels when outsourcing towing and dredging.

If there is an excessively large labor force, the port must apply a strategy of voluntary and mandatory retirements. If the private sector is to assume responsibility for paying off the excess labor, it must have a sufficiently long-term contract to allow it to amortize these costs. If the port retains the labor, then it must retain some tariffs to pay for the excess labor.

The reduction in port labor remains one of the most contentious components of plans to increase PSP. Much of the effort on reaching agreement with the private sector involvement has focused on labor redundancy. This has been especially difficult in Latin American and South Asia where there are strong unions. Buenos Aires and Port Kelang were both successful in combining private sector hiring and generous retirement benefits. Nhava Sheva and Laem Chabang benefited from starting out with relatively small workforces which they could retain after concessioning some of their facilities. Bombay and Bangkok have large workforces which prevented them from undertaking concession agreements.

#### **6. Depoliticization and Equity Participation**

The last two objectives involve restoring the goal of serving the public interest. The first is to remove the activities of labor and management from the political arena. The second is to promote ownership of former state-owned enterprises (SOEs) by the public.

In many countries, the politicization of cargo-handling labor has made it difficult to reform port labor. The ports of Latin America and South Asia suffer from some of the lowest cargohandling productivity in the world but have been unable to address this problem because of the

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<sup>33</sup> In the case of Kenya, there was a requirement by the International Monetary Fund that the container terminal in Mombasa be placed under private sector management.

power of the unions. The intransigence of labor will often limit the choice of privatization strategies.<sup>34</sup>

The politicization of management is a common problem in major domestic ports. Government interference in investment and tendering can create a culture of corruption that must be addressed through divestiture. Government appointments of senior management based on political loyalties, and without regard to qualifications or performance, present a further problem. This problem must be addressed through divestiture, which limits future influence of government on management or infrastructure development. One of the major benefits of the partial divestiture of Port Kelang's container operations was the reduction in interference from the central Government in the appointment of managers. Subsequent efforts at port reform in Malaysia were hindered by the involvement of political parties in the "private sector" concessions. This influence was minor compared to Indonesia, where official corruption and cronyism permeated the management of both the public port corporations and the private concessions.

Increasing the participation of the public in equity markets has been an objective of some Asian governments. The recent formation of the Singapore Port Corporation will lead to a public offering, thus fulfilling the Government's objective of broadening the public participation in the stock market. The formation of public share companies has been a popular method for reducing government interference in Eastern Europe and the Soviet republics. However, this approach can lead to the consolidation of ownership among a few, powerful shareholders. Malaysia has used this approach to transfer ownership of businesses to the Bumiputras through funds controlled by the major political party. These funds participated as equity partners along with pension funds, SOEs and provincial governments in several of the port concessions.

#### **D. Private Sector Objectives**

The objectives of the private sector in participating in port services are to:

- Generate an acceptable rate of return.
- Provide vertically or horizontally integrated logistic services to the market.
- Increase the reliability of the services.
- Reduce the costs of transport.

The first objective is not to maximize profit but rather to earn an acceptable rate of return.<sup>35</sup> Included in this rate of return are the funds for replacement and renewal of existing facilities and equipment, as well as the seed money needed to finance the expansion of capacity to meet growth in demand. This objective can be achieved with each strategy but the measurement of the return varies. Return on expertise is important for outsourcing and capital leases, whereas return on investment is more important for partial or complete divestiture. Return on entrepreneurship is important for all four.

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<sup>34</sup> An extreme example has occurred in Karachi and other ports where the shipping lines hired private cargo-handling companies to increase berth productivity while continuing to pay the port cargo-handling labor but not using their services.

<sup>35</sup> The acceptable level depends on the alternative businesses which the operator is involved in and the relationship between risk and return which these activities generate.

The second objective is important for shipping lines, logistics companies, and cargo-handling companies that are seeking to integrate the terminal operations with upstream and downstream activities. It is also important for international terminal operators that are seeking to establish a number of terminals serving the major ports of a region or circling the globe.

The objectives of increasing reliability and reducing transport costs are important for shipping lines, logistics companies, and cargo owners. A reduction in the cost of transport and storage translates into profits for their core businesses. This objective can be met through partial and complete divestiture. Outsourcing can also be effective for port activities that create considerable delay and expense for the shipping lines, e.g., postage and towage.

Other objectives that the private sector will pursue include:

- Optimizing the amount of investment - it is often easier for government to increase the amount of productive assets than to increase the productivity of existing assets, whereas the private sector maximizes productivity and utilization of existing assets in preference to investing in new capacity.
- Reducing the cost of management personnel - Because good managers are a scarce resource and represent a fixed cost, the private sector will seek to minimize the size of the management committed to a project.
- Reducing the extent of commercial regulation - in order to operate efficiently and to generate sufficient returns, the private sector needs to price on a commercial basis. This is generally in opposition to regulated pricing structures, which focus on costs rather than value to the customer.
- Reducing the level of competition - The private sector is concerned with minimizing its risk. Thus, it will seek protection from competition when it is entering a new or high-risk business.
- Maximizing the potential period of the contractual agreement.

These objectives must be considered both in choosing a strategy for increased PSP and in negotiating the terms and conditions of the contract with the private sector. Where there is considerable private sector interest in taking over the port activities and services, alternative contractual agreements should be considered. Where the level of interest is low or uncertain, more attention needs to be given to the selection of an agreement that will be attractive to the private sector.

These objectives help to explain why the private sector:

- Seeks to avoid up-front investments or fixed investment schedules.
- Prefers capital leases and concessions to subcontracts and management contracts.
- Prefers a negotiated pricing structure but is willing to accept indexed tariffs if the starting levels are reasonable.
- Wants an exclusive franchise or an initial period of time during which the port will not introduce new competitors.
- Negotiates for 30+ years agreements.

It wants total control, not only over operations but over all aspects of the business in which it is involved. It will look for situations with peaceful labor relations, stable political and economic conditions and established traffic. In general, the private sector is interested in longer term agreements which allow it to benefit if the business is good and which do not bind it to businesses if it goes bad.

## **V. COMPETITION AND CONTESTABLE MARKETS**

The port industry offers a number of opportunities for creating monopolies. The potential of creating a private monopoly has become one of the more contentious issues in the effort to introduce port privatization. The perceived difference between a public and private monopoly is that the former operates inefficiently, using its monopoly position to pass on higher costs in the form of increased port charges and delays, whereas the latter operates more efficiently but seeks to maximize profits by increasing charges, even at the cost of lowering the potential port traffic. The actual situation is more complex because of the diverse forms of competition that exist both within a port and in the logistics chains which it serves. The design of an effective transfer of port operations and investments from the public sector to the private sector requires an assessment of these competitive forces and the design of contractual agreements which will promote either direct competition or the potential for competition.

### **A. Potential for Monopoly Behavior**

The most important characteristics of seaports, which make them vulnerable to monopoly practices, are the high cost of establishing a port and the economies of scale of port construction and operations. A new seaport requires the development of a protected area for mooring/berthing, sufficient depth in the access channel and alongside the berths, and adequate backup area for storage of cargo. Most coastlines have a limited number of sites with natural harbors and flat backup areas. Additional sites can be created through major civil works, i.e., dredging, construction of breakwaters, and reclamation of shore area or leveling of hillsides. These are extremely costly and constitute a major barrier to private sector development of new ports. The high cost for construction of the road and rail links connecting the new port site with the main transport corridors adds to that barrier. Since greenfield sites with sufficient, undeveloped land tend to be located far from the main transport network, the costs of developing these links can be comparable to the costs of developing the site.

The high cost to develop a new port has meant that the public sector has developed most large coastal ports. Private ports are generally limited to individual terminals with a few berths located either within the protected areas of larger public ports or along inland waterways.<sup>36</sup> in India, the development of private ports has centered in Gujarat where there is some natural protection against winds and waves.<sup>37</sup> in Thailand, there are a few natural harbors with adequate depth. Private terminals have been developed primarily along the Chao Phya River. In the Philippines, the private ports are located on rivers or in protected areas adjoining public ports. In Indonesia, the largest private ports are found in Kalimantan and serve large mining activities. The port structures are limited to loading terminals with a spare berth for

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<sup>36</sup> River ports, being less costly to develop, have been more attractive sites for private port development.

<sup>37</sup> There are a number of socio-political factors which have caused Gujarat to take a leadership role in this activity.

handling project cargo. In East Malaysia, the LNG berths in Bintulu were developed as private bulk terminals but the port facilities for handling project cargo, supplies, and the fertilizers produced from the natural gas were developed as a public port. There are common-user ports requiring major infrastructure, such as breakwaters and access channels, which are being developed by the private sector. However, there are situations where the private sector has invested in the expansion of existing ports or has joined with the public sector in developing a port.

The high cost of entry extends to the cost of constructing special-purpose facilities. Their costs have increased with their throughput. An efficient, fully equipped container terminal costs between US\$40 million and US\$100 million per berth, exclusive of land and water access. The same order of magnitude applies for large dry bulk terminals. Liquid bulk terminals are less costly because of their simple pier structure and cargo-handling systems, but the backup storage and piping can be costly. General cargo berths configured for multi-purpose use are less costly, of the order of US\$15 million-US\$25 million per berth. The high cost for new facilities limits the number of potential developers to shipping lines, cargo owners, railroads, and the large terminal operators with access to international finance. These facilities have relatively low marginal operating costs, making it easier for an existing operator to discourage potential competitors.

The economies of scale apply to ports and to individual facilities. The larger the port, the lower the amortized cost per berth for the basic infrastructure, especially entrance channels and large breakwaters. There are also economies of scale associated with the depth of water available alongside the berth. The greater the depth, the larger the vessels and the greater the throughput which can be achieved at the berths. For individual facilities, an increase in the number of berths permits higher average occupancy and more sharing of the cargo-handling equipment and backup storage. However, these economies apply only for the first three berths. Beyond this, there are relatively little additional economies with an increase in size. The rapid development of competing trans-shipment hubs in the Mediterranean and the Caribbean suggest that economies of scale for larger terminals are limited.

The potential economies of scale relate not only to the size of the port but also to the size of the market it serves. Ports develop in parallel with their hinterland, which provides both the base load cargo and the supporting logistic services. The hinterland remains an important factor even with the expansion of land transport networks and the refinement of intermodal transport. Where ports have been restricted in their growth by the development of the surrounding urban area, they continue to have a competitive advantage over ports that are located in less congested areas within 100 to 250 kilometers of the urban area. Bangkok, Karachi, and Manila have all continued to thrive despite the availability of newer, less congested port facilities outside the urban area.

The volume of traffic introduces economies of scale by generating frequent calls by scheduled shipping services that provide services to different parts of the world. The ability to offer more frequent sailings to more trading areas with more direct connections provides a competitive advantage for attracting local and regional cargo and for capturing trans-shipment business. The development of the hub-and-spoke container shipping networks with multiple strings on the primary shipping routes are a recognition of the benefits of calling at a few larger ports.

## B. Sources of Competition

The competition faced by ports is part of the general competition for the transport of cargos between their origin and destination. Traditionally, the competition has been between ports that serve a common hinterland. The extent of competition has increased as national port systems developed and land transport costs decreased. More recently, competition has extended to multi-modal routes that serve common origins and destinations. Although ports continue to derive most of their competitive advantage from their hinterland, the boundaries of the “captive” hinterland are being reduced. Efficient unit train operations and large tractor-trailer units have greatly reduced inland transport costs. Air freight has begun to capture higher-value, time-sensitive goods, either directly or in combination with ocean transport (sea-air services). Cross-border truck transport has increased the range of interport competition between countries.

Competition has also increased among the links of the logistic chains that transport, store and process goods from their point of origin to their point of consumption. The provider of port services competes with other links for the overall value-added provided by the chain. They negotiate with providers of services on other links to improve the efficiency of the chain. Land transport has tended to be a weak competitor for value-added because a large number of private truck operators have come to dominate the transport of non-bulk cargo.<sup>38</sup> Shipping lines are strong competitors for this value-added. Their bargaining power, relative to ports, has been increasing even as their efforts to reduce competition through conferences, mergers, and alliances have generally failed. They use the threats of shifting to competing ports, reducing their frequency of vessel calls, and converting from direct calls to feeders to gain more favorable rates and services. They also use their market power to reduce the cost of inland transport by threatening to switch to other carriers or to arrange for their own inland transport.<sup>39</sup> Within the port, there is often competition between the general cargo berths and the container terminals for marginal containerizable cargo and for containers not carried in cellular ships. Similarly, there is competition between general cargo berths and special-purpose berths for neo-bulk cargos.

The effect of the competitive interactions between suppliers of logistic services is to greatly reduce the opportunities for monopolistic behavior by the suppliers of port services. Most private providers of port services recognize that volume is more important than short-term profit in securing a reasonable return on investment. This is especially true for the larger terminal operators (Appendix 1) which market their services in several ports and must provide a consistent level of service, since many clients call at more than one of their facilities. It is also true where they service the larger shipping lines or major cargo shippers who have the financial capacity to establish alternative terminals.

Despite the different sources of competition in the port business, there remain situations in which the establishment of private terminals or the franchising of cargo-handling services in public ports can create monopolies. For example:

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<sup>38</sup> A notable exception is the Malaysian container haulage industry which is restricted by the government. It has evolved from a monopoly to an oligopoly, but continues to be plagued by inefficiency and high cost.

<sup>39</sup> Their involvement in inland transport began with trucking but has been extended to rail in a number of countries. Most countries have laws to protect local transport companies from foreign competition but this does not prevent the lines contracting with local companies.

- A small port that lacks sufficient facilities or traffic to allow more than one private company to compete for a specific service (e.g., Central American ports).
- A private terminal operator that controls a much larger capacity than its competitors and is able to use its size to establish a competitive advantage (e.g., Hong Kong, China).
- An existing concessionaire that is allowed to bid for similar concessions either in the same port or in competing ports (e.g., Subic).
- A private party that is granted protection from competition for a specified period and uses this protection to establish a dominant position in the market (e.g., Shanghai, Tanjung Priok).
- A port that offers existing facilities to one party but has only undeveloped land to offer to potential competitors (e.g., Montevideo, Port Kelang, Surabaya).
- A port with captive trade where there are no common-user facilities available (e.g., grain and other bulk terminals operated in conjunction with import licenses).

### **C. Avoiding Monopoly Behavior**

There are three ways to avoid problems of monopolistic behavior. The first is to establish a regulatory framework, which monitors the quality of service provided and approves changes in charges to the port users. This requires:

- Transparent and acceptable regulatory procedures.
- An established regulatory body that is separated from the port management.
- A level of regulation that does not prevent commercial behavior.

Efforts to create independent regulatory bodies, such as the Tariff Authority for the major ports in India, have encountered problems because of conflicting political pressures and the tendency to establish fixed procedures to avoid these conflicts. The alternative is self-regulation by users, but this requires a means of arbitration and a complementary body of legal precedence to resolve conflicts between port users and providers of port services.

The second method for preventing monopolies is to design a tendering process and contract between the port and the private sector that creates a contestable market. This favors partial divestiture over full divestiture and leases over concessions. It also argues for shorter-term agreements with performance targets and provisions for “no-fault” early termination in the event that these targets are not met.

The tendering process should include:

- Competitive bidding with transparent procedures and objective criteria.
- Pre-qualification to ensure that bidders are qualified and have demonstrated competitive behavior.
- Exclusion of private companies likely to seek a monopoly position (e.g., shipping lines in bids for common-user container terminals).

- Bid selection based on the lowest charges to the port user.

Other features of the contract that add to the potential for competitive behavior are:

- Limiting the percentage ownership by individual parties to an agreement.
- Granting preferential use of port assets rather than an exclusive right to these assets.
- Time limits on protection from competition for new or high-risk businesses.
- Contract extensions based on performance.
- Allowing specific discounts but requiring that they be offered to all port users.
- Allowing shipping lines to negotiate directly with the private sector service providers regarding price and quality of service.

The third method for avoiding monopolies is for the port to actively promote competition. The port can continue to provide common-user facilities and basic services (through outsourcing) for users who cannot obtain acceptable service from the private service suppliers. The port can also construct new facilities to reduce the barriers to entry for potential competitors. The government can develop greenfield ports and support legislation for trade facilitation and intermodal transport. It can also allow private ports to compete for third party cargo.

## **VI. FINANCIAL COMPONENTS OF A CONTRACTUAL AGREEMENT**

The financial structure of the agreement between the port and the private sector is arguably the most critical component in determining the success of these agreements. It affects both the operational efficiency and commercial success of the private sector activity. It determines the ability of the private sector to obtain finance for capital investments and the timeliness of these investments. Finally, it affects the level of the private sector's financial risk and, by implication, the rate of return required to attract bidders.

The most important financial components are what the private sector can charge port users for services, what the private sector must pay to the port for the right to provide these services, the investments required, and the sources of finance used by the private sector. The importance of these issues to the success of the arrangement is mapped out in Table 6.

**Table 6: Financial Components and Their Impact on Objectives of Privatization**

<b>Financial Components</b>	<b>Financial Objectives</b>	<b>Increase Operational Efficiency</b>	<b>Improve Chance of Commercial Success</b>	<b>Promote Timely Investment</b>	<b>Reduce Required Risk and Return</b>	<b>Improve Access to Capital</b>
<b><i>Financial Options</i></b>						
Commercial Pricing or Limited Regulated		Y	Y	Y	Y	Y
Royalties rather than Rent			Y		Y	
Required Minimum Volume Target			Y			
Escalating Payment no Up-front Payment			Y		Y	
Bid Based on Lowest User Charges rather than Highest Payment		Y	Y		Y	
Performance Based Contract rather than Asset Based		Y	Y	Y		
Foreign Exchange Pricing			Y		Y	Y
Permit Used as well New Equipment		Y	Y	Y	Y	
<b><i>Financial Provisions</i></b>						
Permit Private Ownership of Fixed Assets				Y		Y
Provide Publicly Financed Infrastructure			Y		Y	Y
Financially Pre-qualify Bidders			Y			Y
Allow Foreign Ownership and Funding		Y	Y			Y
Allow Formation of Special-Purpose Company		Y	Y		Y	Y
Minimum Level or Type of Equity			Y			Y
Sovereign Guarantees					Y	Y
Exposure to Taxes and Duties			Y	Y	Y	

## A. Pricing of Services

Where there is competition, the charges to the users may be set by the market, otherwise they must be set according to procedures included in the contractual agreement. This agreement may require that the port user be charged according to the existing port tariff or may stipulate the individual charges that can be levied. Alternatively, the private party may be allowed to specify the charges as part of their proposal. If the tariffs are to be regulated, the agreement will specify the procedure for periodic adjustment of the level of these charges.

The greater the pricing flexibility, the more easily the private party can adjust the prices to promote operational efficiency and to recover the costs of offering a better quality of service.<sup>40</sup> Increasing the pricing flexibility reduces the commercial risk and thus the necessary return on investment. With rigid pricing structures and cumbersome procedures for adjusting rates, it is more difficult to obtain external financing. The most common compromise between regulation and flexible pricing is to require that the private party charge no more than the current tariffs. This allows the private party to offer discounts to award more efficient operation and to develop new markets. Over time, the maximum rates must be adjusted for the amount of inflation above the rate of growth in productivity.

The contractual agreement stipulates either directly, or by reference to current port regulations, whether the charges can be quoted in foreign exchange. Pricing in foreign exchange may be necessary if there is volatility in the domestic currency or high rates of inflation. It increases the chances of commercial success, since both the shipping lines and the trading community quote prices in foreign exchange. It also gives comfort to potential lenders who are asked to provide foreign exchange financing. Finally, it reduces the need for regulation by allowing for automatic adjustment for part of the rate of inflation.

## B. Payments to the Port

The private party pays to the port some combination of up-front fee, annual rent, and royalties based on volume of traffic or gross revenues.<sup>41</sup>

The **initial payment** may be described as a guarantee, payment for the assets transferred to the private party, a franchise fee or a combination of the three. The financial cost to the private sector of this payment is much greater than the financial benefit to the port. This payment has a similar effect as the capital investment at the beginning of a contract. It represents a large negative cash flow in advance of generating any positive cash flow. It adds to the commercial risk and can create difficulties in obtaining financing unless there is a large cash inflow relatively soon afterwards. Initial payments should be avoided for contracts that involve new businesses or businesses that must capture market share from existing competitors.

The **annual rental payment** to the port can be either fixed or escalating. A fixed rental offers a greater upside reward for the private sector but also a higher downside risk. An escalating rental payment can be used for new businesses (during the pioneer period) or where there is a significant up-front investment. The escalation can be used to yield a higher financial

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<sup>40</sup> A pricing structure based solely on current costs discourages capital investment or improvement in the quality of services.

<sup>41</sup> These are in addition to existing tariffs collected by the private party and passed on to the port.

return to the port, as measured in Net Present Value, and less commercial risk to the private sector.

The **royalty charge** collected by the port can be computed on the basis of the physical amount of cargo handled or as a percentage of the revenue collected. The latter is more difficult to enforce. The replacement of a rental with a royalty reduces the private sector's overall level of commercial risk and, other things being equal, offers the greatest opportunity for commercial success.<sup>42</sup> The royalty offers the port a higher upside reward for the port but also a greater downside risk. This charge can be bounded by a minimum payment to reduce the port's downside risk and/or a maximum payment to reduce the private party's upside risk. It can also incorporate a sliding rate that decreases with volume so as to reduce the marginal charge as an incentive to increase traffic.

The port and the private sector may also **share some of the tariff revenues collected** from specific tariffs. The port authorizes the private sector to collect these fees. This is not common because of difficulties in auditing the collection activity of the private sector. A notable exception is the passenger tax for cross-channel ferries in Le Havre which are collected by the terminal/ferry operator

The amount paid to the port is determined through the bidding process or is stipulated by the port in the tender document. In the former case, each bidder estimates the operating costs and revenues for the projected level of traffic and determines what to offer the port after deducting a sufficient profit to make the arrangement viable. In order to offer the highest amount to the port, the bidder will attempt to minimize the operating costs and also, where possible, optimize the revenues. Without price regulation or competition as a moderating force, this can lead to higher charges to the user. With competition or price regulation, the market will determine the value of the agreement thereby increasing the chances for commercial success.

Where the port stipulates the amount to be paid as part of the tender, then the bidders financial offer contains the rates to be charged to the port users for basic services. The lower the amount, the better the chance of winning. Again, the bidders estimate their operating costs and revenues and then add the amount of these payments. Where there is no competition, a bid based on the lowest charge to the user improves the chance for commercial success. This procedure provides more benefits to the port users, but the level of benefits will depend on the amount to be paid to the port. If the port chooses to collect monopoly rents, then this will be reflected in higher port charges which reduce the volume of traffic. Most agreements involve more than one type of service and different levels of quality making it difficult to compute a single average charge on which to base the bid evaluation.

### **C. Investments**

Two approaches can be used for agreements that require the private sector to make substantial capital investments. The first is an asset-based agreement that includes the residual value of the assets transferred to the private sector as part of the bid price. It may also stipulate the new facilities and equipment to be provided by the private sector. The second is usually only the initial investment but may include all investments over the life of the agreement. Attempts to value existing assets have generally proved unsuccessful because of the uniqueness of port

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<sup>42</sup> Many agreements include a required minimum traffic volume which translates into a minimum level of royalty payments. This is equivalent to a fixed rental for the minimum volume of traffic and a royalty.

assets, the effect of technological change on their residual value, and the lack of meaningful comparisons. Attempts to specify future requirements presume that a reliable traffic forecast is available and that changes in technology and productivity can be predicted. A fixed schedule of investment for the life of the agreement reduces the chances of commercial success, increases private sector risk and often reduces operational efficiency. Asset-based agreements should be used for transactions limited to the sale or lease of existing assets rather than procurement of new assets.

**Performance-based agreements** are used for transactions that involve the transfer of port services and other commercial activities. The agreements treat the services being transferred to the private sector as a business and values them based on the income they are expected to generate. They do not value the assets being transferred but allow the competitive bidding to determine their value. They do not stipulate the investment required to meet the current demand. Instead, the private sector is required to maintain a minimum standard of performance.

A major attraction of privatization from government's perspective is the mobilization of private financing to develop public infrastructure. However, the use of private financing can limit competition if there are existing service providers. The new entrant must cover the initial costs for mobilization and for capital investment. They must also cover a low enough price to capture market share from the existing service providers, who operate with depreciated assets and a lower cost base.<sup>43</sup> The result is a negative cash flow for a number of years that reduces the financial viability of the agreement. Where port infrastructure is publicly financed, the new entrants need only make an initial investment in equipment and superstructure. The infrastructure is paid for through rental payments. This should significantly improve the new entrant's chances of achieving commercial success.

**Foreign participation** in the provision of port services may be limited by the law or by a decision of the government. Similar limits may be applied to the use of foreign funds for investment in port assets. These constraints not only limit the private sector's access to capital but can also reduce gains in operational efficiency by limiting the options for collaborative efforts between domestic and foreign entities. These constraints reduce the potential benefits to the port users and run counter to the trend towards globalization of the port business.

#### **D. Sources of Financing**

Terminal concessions and other arrangements that require significant capital investment are generally financed through a combination of debt and equity. The most common sources of long-term finance used to finance investment in public services are shown in Table 7.

**Project financing** is a popular form of limited-recourse debt. A special-purpose company is established to borrow the money. This company arranges a bridging loan for the period of construction followed by an 8-10 year loan (or longer where there is a partial credit coverage). During construction, the lender has limited recourse to the balance sheets of the owners of the special-purpose company. Thereafter, recourse is limited to the revenues from the investment.

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<sup>43</sup> This applies even where the existing service provider is operating at capacity. The new entrant can increase their traffic at the marginal rate of growth but otherwise must compete for market share.

**Debentures** are a popular form of debt but have had limited use in the port sector, except for the US revenue bonds or mortgage bonds. Revenue bonds have been used extensively in the US to finance port development. Mortgage bonds are not common because the concessionaire does not own the land or basic infrastructure and the equipment can be funded through low-cost supplier credits. Long-term debentures have not been widely used because the domestic bond markets in most developing countries are at an early stage of development.<sup>44</sup> International bond markets (London, Tokyo, and New York) can be used only by the larger, more well-known international terminal operators and port authorities. Three recent examples of the use of debentures are those issued by HIT to finance the development of the Delta Ports in PRC, the Samurai bonds issued by the Korean Container Terminal Authority to finance construction of Kwangyang Bay Phase II and the dollar-denominated bonds issued by the Singapore Port Corporation to fund overseas expansion. The benefits of this form of borrowing include lower interest rates, longer terms and more flexible repayment schedules. The disadvantages include the up-front costs, the time required to prepare an issue, as well as the foreign exchange exposure. The advantages are lower interest rates and longer periods.

**Table 7: Sources of Long-term Capital**

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<ul style="list-style-type: none"> <li>• <b>Commercial Loans</b> <ul style="list-style-type: none"> <li>Convertible</li> <li>With Guarantees</li> <li>Limited Recourse Project Finance Debentures</li> <li>Revenue</li> <li>General Obligation</li> <li>Mortgage</li> </ul> </li> <li>• <b>Public Share Offerings</b> <ul style="list-style-type: none"> <li>Institutional Investors</li> <li>Multilateral Development Banks Private Sector Loans</li> </ul> </li> <li>• <b>Join Venture Equity and Debt</b></li> </ul>
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**Public share offerings are rare.** They involve the sale of shares in corporatized port operating companies, joint ventures, terminal operating companies or the companies that hold equity in the terminal operating companies. Some of the UK ports utilized this mechanism for management buyouts. Large terminal operators such as Hutchinson Whampoa and ICTSI have used this mechanism to raise capital for expansion. Public ports have been able to access this type of finance through corporatization and joint ventures. For example, Port Kelang was able to sell its shares in the joint venture that had the initial container terminal concession.<sup>45</sup>

**Institutional investors** that include pension funds, insurance companies, and investment funds, have been important sources of funds in Latin America following the privatization of the pension funds. For example, the winning consortium for the recent tender of the container terminal in Santos included a large Brazilian Pension Fund. A similar trend is expected to occur in Asia. In the 1970's, the Commonwealth Development Corporation, UK based parastatal investment fund, invested in Hong Kong, China's Modern Terminals Ltd. but since then there has been relatively little activity, despite active interest shown by groups such

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<sup>44</sup> Revenue bonds have been instrumental in the development of the US ports.

<sup>45</sup> Unfortunately, these shares were issued in such a way as to limit the returns to the port. The government arranged the placement of the shares so that individual investors rather than the port benefited from the rapid rise in the price of these shares following their initial offering.

as American Insurance Group. This source of fund will be more important for new enterprises. Established international terminal operators have already developed sources of finance and derive limited benefits from the participation by a passive investor.

The recently established regional infrastructure investment funds are expected to provide a mixture of equity and mezzanine financing. Within Asia, their initial involvement has been in power generation and toll road concessions, but they are expected to expand into the port sector. In the Middle East, regional investment trusts provided substantial funds for the new container terminal concessions in Salalah and Aden.

The **multilateral development banks** and regional development institutions provide a mixture of equity and debt. The International Finance Corporation (IFC), in particular, has been active in funding terminal concessions, providing both loans and equity, and also leading loan syndicates. The IFC has been involved in successful operations in Argentina, Panama, PRC, and Mexico and is now involved in new projects in India, Sri Lanka and elsewhere. The European Bank for Reconstruction and Development and the Inter-American Investment Bank are performing a similar role in providing financing to the private sector for investment in East Europe and Latin America, respectively.

## VII. RISK AND MITIGATION

The contractual agreement for the transfer of responsibilities and assets from the public port to the private sector states the objectives of transaction, the period of agreement, the terms of payment, and the obligations of both parties to the agreement. It assigns liabilities and sets out the procedures for extension and termination of the contract.

**Table 8: Types of Risk**

<ul style="list-style-type: none"> <li>• <b>Commercial</b></li> <li>Traffic</li> <li>Pricing</li> <li>Competition</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Regulatory</b></li> <li>Rules of the Game</li> <li>Responsiveness of Regulator</li> <li>New Laws and Regulations</li> <li>Investment Cost Recovery</li> <li>Control/Ownership of Assets</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Financial</b></li> <li>Inflation</li> <li>Cost of Capital</li> <li>Exchange rate</li> <li>Convertibility, Repatriation</li> <li>Continuing Availability</li> <li>Default, Change in Ownership</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Completion</b></li> <li>Permits and Approvals</li> <li>Contracting, Procurement</li> <li>Construction Delays</li> <li>Cost Overruns</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Force Majeure</b></li> <li>Expropriation</li> <li>Riots, Law and Order</li> <li>Natural Disasters</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Labor Relations</b></li> <li>Productivity Gains</li> <li>Wage Growth</li> <li>Restrictive Practices</li> <li>Labor Confrontation</li> <li>Pension Liabilities</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Technical</b></li> <li>Design Failure</li> <li>Performance and Reliability</li> <li>Obsolescence</li> <li>Loss of Access</li> </ul>	

Table 8 presents the most common risks associated with the transfer of public infrastructure and services to the private sector. In theory, these risks should be assigned according to the party that has the most control over the factors which create the risk and/or the party that has access to methods for mitigating these risks. In practice, the assignment process is more complex because both parties have some involvement in the risk factors and access to different mitigation techniques. Much of the negotiation between the port and the private sector during the tendering process involves the assignment of risk. For agreements that require capital investment, the negotiations on assignment of risk can also include the potential lenders.

Commercial (Market) risk refers to the risks associated with the financial viability of the project. These include the risks that the demand will not be sufficient or will not support a sufficient level of charges and that the capital and operating expenditures will be significantly higher than anticipated. For ports, the risk is increased by the changing patterns of international trade and waterborne commerce. The growing competition between intermodal routes and the control of the shipping lines over the routing of vessels and cargos has added to the commercial risk. The greater this risk, the higher the projected return that the private sector will require before entering into an agreement. Despite the growing competitiveness of the industry, the ports remain a relatively safe form of investment compared to shipping or land transport. Experience has shown that all but the smallest ports can be operated profitably. Also, ports have much less revenue volatility than the transportation companies they serve. This low level of risk has made investments in port facilities and services attractive not only for companies involved in port operations but also for individual investors purchasing port debt or equity.

In this market, there is little justification for the port accepting part of the commercial risk. The exception occurs where the port requires a specific set of investments according to a fixed timetable. It is important to encourage timely renewal of existing facilities, expansion of existing capacity, and the introduction of new facilities. However, fixed requirements for private investment in facilities merely increase the amount, which must be paid by port users for the services required. Part of the effectiveness of the private sector is its ability to utilize capital efficiently, to obtain the maximum output with the minimum investment, and to mobilize capital quickly when there is demand for investment.<sup>46</sup> Where the timing of these investments is set without regard to the level of traffic, then the port will assume some of the risk, usually in the form of a lower financial offer by the private sector.

Financial risk concerns changes in basic financial conditions, which can affect the viability of the investment. These risks encompass fiscal issues, such as the rate of inflation, the exchange rate and the convertibility of the local currency, as well as the terms of financing, such as the interest rates, period, loan covenants, and availability of additional funds. The level of risk decreases where there is greater diversity in the sources of funds. It is highest where financing is limited to commercial bank loans and lowest where there is an established domestic longterm capital market. The private sector will assume the risks associated with the terms of financing but will look to the port to assume some of the risk associated with the fiscal policy.

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<sup>46</sup> The history of the expansion of Hong Kong, China's container facilities is an interesting balance between market driven demand for new capacity and management ingenuity in increasing the productivity of existing terminals while waiting for the new terminals to be constructed. The Port of Singapore achieved similar results in the 1970's and 1980's, when it embarked on a sustained program of reducing its operating costs in order to generate sufficient funds to invest in new capacity, despite rapidly growing demand.

Regulatory risk refers to those risks attached to the port and the government's role in regulating the activity of the private party. Three of these risks are:

- A change in the laws affecting port operations and investments, especially those related to health, safety and environment.
- A change in the rules and procedures for regulation of pricing and performance of port services.
- Other changes in laws or policies that affect the rights of the private party or the obligations of the government.

The first has become a serious concern in nations with evolving environmental laws affecting dredging, handling of hazardous materials, and disposal of ship wastes. The second and third involve changes in policy or political initiatives and are of greatest concern in countries which lack a well-established body of corporate law. A less important risk is that the port will, knowingly or unknowingly, assume contractual obligations where it does not have the legal right to do so. While the private sector will assume the regulatory risk and rely on a continuing dialogue with government to minimize this risk. They, and particularly their lenders, will expect the government to provide some form of mitigation. In some cases, this may be a formal government guarantee to protect against changes in the regulatory rules or a guarantee from an MDB, for example, the Multilateral Investment Guarantee Agency, backed by an agreement between the MDB and the government.

Technical and completion risks are associated primarily with capital investments. They include the risks that the equipment and civil works will not meet the technical and performance standards and that the permitting/procurement/installation process will delay the startup of a project. These risks are assumed by the private party, except for those activities that require government participation. The latter include securing land, providing basic infrastructure and obtaining environmental approvals. The private party will expect these to be completed prior to starting the project or for the port to assume all risks associated with the delay of these activities.

The risks associated with labor's participation can be considerable. The private sector requires an efficient labor force and good labor relations in order to provide good quality services and control the costs for providing these services. The private sector will assume the risks associated with labor relations, pension liabilities, and other obligations related to the provision of future port services. It will expect the government to assume the risk for prior commitments to labor. At the time of transfer, the port and its labor should have reached an agreement with regard to the possibility for future employment with the port and the private sector, and the government's obligations with regard to outstanding pensions and retrenchment payments. The private sector should have reached agreement with regard to the terms and conditions for future employment. The port and the private sector should each assume responsibility for future problems arising from these agreements.

Other risks related to natural disasters and civil unrest should be covered under standard *force majeure* clauses. These would limit the obligations of the private sector under these circumstances and provide for adequate compensation in the event that these cannot be overcome. The assignment of risk and the setting of levels of compensation are developed during contract negotiation but should reflect common practice. The port, for its part, will require the private sector to provide insurance to cover part of the risk and will maintain insurance to cover other parts of the risk. A summary of the major risks and the mechanisms for mitigating these risks is shown in Table 9.

**Table 9: Sources of Risk and Risk Mitigation**

<b>Category</b>	<b>Sources of Risk</b>	<b>Participant — Mitigation Techniques</b>
<b>Technical</b>	Effectiveness of Facilities and Equipment in meeting objectives	Port - Provide basic site data and operational information for preliminary design Proponent — Undertake detailed engineering design, design review
<b>Commercial</b>	Profitability and commercial sustainability which is dependent on the growth in traffic and the level of competition	Port - Introduce commercial prices prior to transfer, construct and finance basic infrastructure and facilities, provide limited protection from competition, use performance-based contracts Proponent — Thorough marketing studies, Subcontracting activities, Obtain user commitments
<b>Completion</b>	Time to develop and construct facilities	Government — Provide complementary infrastructure prior to start of project Port - Obtain basic environmental and regulatory approvals prior to start of construction Proponent - Careful planning and scheduling, turnkey construction with fixed deadlines
<b>Financial</b>	Changes in cost of debt service or ability to meet debt service and effect on cash flow	Government — Provide guarantees for repatriation of earnings Port - Recover costs through royalties rather than rents, allow foreign-exchange denominated tariffs, Proponent - Use of equity rather than debt to finance investments, use of long-term capital markets, and foreign exchange hedges Lender - Fixed interest rates on commercial loans, Adequate “step-in” provisions, compensation for early termination, repayment guarantees
<b>Regulatory</b>	Consistency of government to applying regulatory framework and in not changing the “rules of the game”	Government — Sovereign guarantees, Minimum regulatory framework Port - Non-punitive exit provisions in the agreement Proponent - Careful legal review of all areas including environment, labor and health and safety laws Lenders - Multilateral Investment Guarantee Agency (MIGA) and other multinational guarantees
<b>Labor</b>	Overmanning and inefficient work practices, contentious labor relations,	Government — Establishing “Open Shop”, break up union monopolies, introduce effective retrenchment schemes Port - Absorb excess labor, Reassign labor Proponent — Negotiate with labor prior to the agreement
<b>Force Majeure</b>	Natural disasters or civil unrest	Port - Coverage of Force Majeure clauses in agreement Proponent — Adequate insurance coverage, Lenders — Requirement for specific forms of insurance

## **A. Protection from Competition**

The private sector will attempt to minimize the risk from new competitors. If the services to be provided represent new businesses, the private sector will seek a franchise or other protection from competition for a specified period. This has been especially common for concessions which require initial capital investment. The protection should be limited so as not to deter legitimate competition. In Shanghai, the concession agreement for the joint venture terminal operator guarantees a 90 percent market share of the container traffic. As a result, potential competitors had to establish much need capacity in terminals located upriver from the port. Most agreements limit the period of protection either to a fixed number of years or until the utilization of existing capacity reaches a certain level. Sometimes they are used in combination, since the utilization criterion acts as a disincentive for attracting traffic above the specified limit.

The private sector's arguments for restrictions on competition are generally linked with the need to recover the cost of their capital investment. The government can avoid this argument by first leasing existing facilities, which require a minimum amount of additional investment and then developing additional facilities to be leased. The port could finance these facilities through a separate corporate entity with the loan secured by future lease payments thus keeping it off the government accounts.<sup>47</sup>

Another source of commercial risk is from unfair competition. The private sector will seek guarantees that the government will not grant more favorable conditions to future competitors who enter the market. This situation occurred in Buenos Aires where the provincial government granted a concession under more favorable terms than those given by the National Port Authority for the original five container terminal concessions. The National Port Authority had guaranteed that no new concession would be introduced.<sup>48</sup> This matter is now before the US courts in litigation brought by one of the original concessionaires. A slightly different situation occurred in Laem Chabang where the granting of more favorable terms to a new terminal operator led to a revision of the contracts with the existing terminal operators.

## **B. Period and Penalties**

There is always the risk that either the port or the private sector will not achieve the objectives set out in the contract. Two methods for mitigating the risk are by limiting the period of the agreement and by including penalties for early termination. Both public ports and the private sector have shown a preference for long-term agreements. The private sector is interested in building a market for its services and expanding the range of services offered. Port officials are interested in agreements that do not require frequent re-bidding or review and that yield the largest monetary return.

There is a minimum period for the private sector to recover its investment. Short-term agreements are possible where there is limited investment, there are a limited number of

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<sup>47</sup> This is similar to the approach that the private sector would take in arranging project finance. In this situation, the government would not provide a sovereign guarantee but would transfer the assets to a limited liability company that would borrow the money. Depending on the structure of this company, the government might have a contingent liability.

<sup>48</sup> This is currently under litigation in a dispute filed by one of the investors in one of the original concessions.

services, the market for these services already exists and commercial risks are limited. A longer period may be required to recover the costs for establishing an effective organizational structure and for developing market share. Still longer periods are required where the agreement concerns the establishment of a new business, includes substantial capital investment or requires the payment of a large initial fee.

Shorter period agreements can introduce a political risk. If the period does not extend well beyond the normal period between changes in government, then newly appointed ministers and port chairpersons will be tempted to change the terms of the existing agreement or to push for early termination in order to have greater control over the private party. Even if the private party has been successful in meeting the objectives of the contract, there is the strong possibility that the new government will not extend the contract or will introduce additional costs to obtain the extension. Long-term agreements can provide protection from political vicissitudes.

Longer term agreements introduce very little commercial risk to the private sector if the agreement is not profitable, there are several options for early termination without significant financial penalty. The private party may have other contracts with the port which will discourage this action, but is generally footloose and willing to leave the port if there are better opportunities elsewhere.

For the public port, the risks associated with longer term agreements are more substantial. These include:

- The contractual agreement may not provide for the needs of a changing shipping market.
- The private party may not be able to respond to new sources of competition from outside the port.
- Port assets may be under-utilized.
- There may be better alternative uses for the port assets.
- The private sector may capture the enhanced value of the port land and assets through subcontracting or transfer of ownership of the concession.

A public port has more difficulty in terminating an unsuccessful contract because of government approval procedure and because the port has on-going contracts with other private parties who would react to the early termination. The port can mitigate this risk by breaking the contract period into an initial period and a number of extensions. These extensions can be conditional on the level of performance of the private party. For countries that do not permit extensions but require re-bidding, a long-term contract can be devised which requires periodic reviews with options for early termination based on these reviews. This serves the interests of both the port and private sector by allowing the contract to adapt to the changing nature of the market.

Penalties are introduced in contracts to penalize the parties to the agreement for failing to meet their contractual obligations or to discourage early termination of the agreement. The effectiveness of these penalties is often limited because the parties will disagree as to the circumstances leading to the request for penalty. The civil justice system is usually slow in processing these claims and its judgements are frequently influenced by political and monetary

considerations. While penalties can provide protection against the more egregious violations of the terms of a contract, they are not as effective in preventing early termination. If the private party is not meeting its objectives, then it will find a way to terminate or transfer the contract. If there is an issue of penalties, then the private sector will rely on the courts to delay or rule against the port in this matter. Where one of the parties desires termination, it is usually in the best interest of both that the contract allows a “no-fault” termination to be completed expeditiously.

### **C. Pricing Regulation**

The pricing of port services represents both a commercial and regulatory risk. The private sector will accept the commercial risk, but where the prices are regulated it will seek some form of protection. The public sector is interested in preventing price discrimination and monopoly pricing and will often introduce regulation even where there is a reasonable level of competition. This may be done as a transitional mechanism that allows the port users to adjust to a commercial pricing regime. If competition is limited and the shipping lines do not have strong bargaining power, then some form of longer-term regulation may be required. The port can minimize the need for regulation by continuing to provide services on its own account, directly or through outsourcing. Alternatively, it can differentiate the market into strong and weak competitors and regulate prices for the latter.

The minimum level of price regulation is to require the private sector to publish their rates and to offer discounts on a common basis. Beyond this, the port can act as arbitrator where its users feel the prices are excessive or there is unfair price discrimination. With full pricing regulation, the port would introduce formula-based pricing and review each change in rates. The private sector will want protection against inflation while the port will want protection against a simple passing on of higher operating costs to the port users. Formulas based on inflation less average gain in productivity appear to be working well in the UK but create problems when setting prices for new services or improvements in quality of service. While effective price regulation is a topic in itself, the concern here is that the port should clearly state which prices will be regulated, develop unambiguous procedures for adjustment and formally commit to follow them.

### **D. Currency Risk**

An obvious concern for international lenders, as well as foreign parties to the agreement, is the convertibility of foreign exchange and the repatriation of earnings. Most foreign loans provide for offshore trust accounts that require payment in foreign exchange. Dividends must also be paid in foreign exchange. The investors and lender will seek a commitment on convertibility from the government or will arrange for suitable insurance. The private party to the agreement may seek protection by arranging an interest rate swap or an exchange rate hedge. It will also seek to have tariff rates specified in foreign exchange.

### **E. Lenders' and Investors' Concerns**

Investors and lenders evaluate the projected cash flow of the agreement based on an assessment of the market and any constraints on pricing. Once they determine that there is a high probability that the cash flow will provide sufficient funds to service the debt, then their attention shifts to preventing events that would have a negative impact on this cash flow. These include regulation that limits price increases, conditions which grant Competitors an unfair

advantage and new regulation laws that constrain port operations. Their primary concern is that the private party will fail to meet the obligations of the agreement or to service their debt. In both cases, the lender will seek "step in" rights that allow the lender to replace the existing private party with a new company that will honor the commitments to the port and the lender. The government usually retains the right to approve this company. The lender will also seek provisions for compensation in the event of early termination by the government as well as commercial guarantees, which cover the debt in the event of early termination.

### **VIII. LABOR REFORM**

One of the major costs of transferring port services to the private sector is the cost of labor retrenchment. This is of particular concern for ports with a large, inefficient labor force and strong unionism. The need to obtain cooperation from labor in organizing the transfer of public port services to the private sector has been demonstrated repeatedly. There is a growing body of experience on how to approach this problem. There is also a growing appreciation of the benefits of transferring the labor to the private sector as part of the divestiture agreement as well as utilizing incentives to accelerate attrition of the redundant workforce.

The difficulty of reaching an agreement depends not only on the past history of port labor relations, but also on the amount of labor which will be displaced, the age of the workforce, the strength of the labor organizations, the opportunities for re-employment both inside and outside the port, the current structure and level of compensation, and the flexibility available to the public sector in developing an agreement with labor.

The first step in dealing with excess labor is natural attrition through a freeze on hiring. This has the disadvantage that it requires a long time to reduce the labor force and it denies an organization access to new talent. Where this is applied for a sustained period, it produces an aging and conservative workforce that is isolated from modern technology and management methods. There is insufficient time to make use of this strategy prior to increasing PSP, but it can be used afterwards to reduce the size of the residual labor force.

The second step is a voluntary retirement scheme. These schemes make some sense in the private sector where management can distinguish between those it wishes to retain and those it wishes to leave. It is illogical in the public sector where compensation is often provided on the basis of number of years in service. Those with the greatest experience and the shortest period remaining before retirement are given the maximum incentive to leave, while those with the least experience and the longest period to retirement (and usually with the greatest capacity for finding alternative employment) are given the least incentive. Where these schemes have been introduced they have almost always failed. India has recently attempted this program but there was little response. A better approach is to provide a fixed amount or to offer the scheme only to those with a relatively long period remaining before retirement.

Voluntary retirement schemes are followed by mandatory retrenchment schemes that allow a port management to select whom will be retrenched. The benefit packages to be provided to labor must be negotiated and will be greater than for the voluntary scheme. A typical level of payment for voluntary schemes is 1-1.5 months pay for each year worked but negotiated agreements typically range from 2-4 months.

Schemes to absorb the labor force into other port activities to be followed by a hiring freeze and natural attrition have been somewhat more successful, especially where the activities of the port are growing or outside employment is readily available. If the activity of the port is expanding, then it may be possible to absorb the excess labor into other logistics activities such as warehousing, consolidation, etc. This can be done within the port organization or by allowing the labor to form cooperatives or small corporations to supply services to the port. This approach was successful in Port Kelang and Laem Chabang. It is more difficult where employees' compensation already includes overtime, incentive pay, speed money, and other non-wage compensation which will be lost as a result of the change. This situation applies to many of the ports of South Asia.

Where there is sufficient lead time, the government can take a pro-active approach by reducing or eliminating the role of the unions and by deregulating cargo-handling services to permit open competition. Uruguay and Argentina had some success with this approach, as did Indonesia.

Two approaches which appear to offer a better chance for success are programs that emphasize job placement programs and those that leave the problem to be sorted out by the private sector. The first involves a carefully designed, long-term program worked out together with labor to provide for a mixture of compensation, retraining and job placement funded through a separate charge on the cargo. The US West Coast ports applied this program successfully for its longshoremen during the advent of the container age. The second approach is to transfer the excess labor to the private sector with suitable job protection for a fixed period of time. Since the private sector is more concerned with avoiding labor conflict and restrictive work practices, they are often willing to accept this arrangement. The private sector is willing to negotiate with employees, as this is one of their strengths relative to the public sector. Mexico settled for this approach after unsuccessfully attempting a more pro-active approach. This approach has also been applied in terminal leases in Karachi and Nhava Sheva. The Australian Government's recent decision to back Patrick Stevedoring in its struggle with organized labor indicates that the need for a concerted action by both the public and private sector may be necessary.

## **IX. THE CONTINUING ROLE OF THE PUBLIC SECTOR**

The role of the public port will decline as the role of the private sector increases, but there are certain functions that cannot be easily transferred to the private sector. The most important are the obligation to act as an advocate of the public interest. While many public ports have failed to do this, the obligation remains. The responsibilities associated with this obligation are shown in Table 10.

The first government responsibility is ownership of public land for common-user ports. This is primarily the foreshore and immediate backup areas. Although the land used for port activities has relatively low monetary value, it has considerable value to the economy. It is important to retain the ownership of this land in the public sector.

**Table 10: The Continuing Role of Public Ports**

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- *Own and preserve foreshore and areas for port expansion*
  - *Enforce government regulations affecting port activities*
  - *Provide basic infrastructure*
    - Port-wide strategic planning
    - New port development
    - Planning and engineering design
    - Access to long-term public finance
    - Provide guarantees
  - *Provide basic public services at reasonable prices*
  - *Advocate trade and transport facilitation*
  - *Promote competition in the provision of port services*
  - *Interface with political stakeholders*
  - *Prepare and tender leases and concessions*
  - *Coordinate with Government on the provision of access and public services*
- 

The second government responsibility is to ensure health, public safety, and environmental protection as well as to guard the borders and enforce its legal codes, both criminal and civil. A number of government agencies are involved in enforcing these regulations, but many countries rely on their national port authorities or agencies to coordinate the enforcement of these regulations. Some countries have also revived the concept of the Port Captain to better regulate marine activities.<sup>49</sup> The unique characteristics of the port and shipping environment suggest that a separate agency is needed to ensure that the concerns of the port and shipping industry are considered when developing new regulations.<sup>50</sup>

The third responsibility of government is to finance the development and maintenance of basic port infrastructure. The infrastructure includes navigational channels, breakwaters, wharves, and road and rail access to the port. These assets require a long period for cost recovery and it is often difficult to charge effectively for the use of this infrastructure. Furthermore, there are significant secondary benefits provided to the economy. There are a variety of government agencies that can develop this infrastructure, most notably public works departments.

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<sup>49</sup> The traditional role of Port Captain provides considerable power over port activities including the allocation of the berths and the oversight of private services within the port. In the modern time, this would create problems of conflicting authority and have a negative impact on efficiency.

<sup>50</sup> An informative example of the potential conflict between governmental regulations and the needs of the port sector occurred in the US during the 1980s and 1990s. The regulations of the Environmental Protection Agency regarding dredging and disposal of dredging materials became so cumbersome, that ports were unable to dredge their approach channels alongside their berths. As the shipping industry moved towards deeper draft vessels, the US ports became shallower. This has limited the ability of the US to benefit from the increase in size of vessels.

The fourth responsibility of government is to guarantee access to basic port services, to ensure continuity in the provision of these services, whether they are provided by the public or private sector, and to prevent discriminatory practices. This requires government (increasingly local government) to continue to invest in facilities for tertiary public ports and for marginal maritime activities, e.g., fishing ports, at major ports.<sup>51</sup> It may also require the government to regulate pricing and commercial activity in ports that lack sufficient competition.

The fifth responsibility is to develop policies that will facilitate trade, intermodal movements of cargo, and the interchange of trade and cargo data. These policies should stimulate competition in the transport of import and export cargo and improve the efficiency of logistics. Most of the constraints on trade are a result of either government policies and regulations or lack of coordination between the public and private sector. It is important to have a public organization that represents the port's stakeholders and advocates changes in these policies and regulations. Among the policy issues recently addressed are the development of EDI systems and the introduction of simplified, standard documentation for cargo shipments.

The final responsibility is to maintain a general port planning capability. This is needed to encourage efficient capital investment. The planning would include expansion of existing ports as well as the development of new ports. This is most important for countries where the port network is not yet mature. Public sector involvement in planning is also important for urban ports because of their impact on the social and economic activity of the community. In particular, the public sector should retain responsibility for land use planning. Because there are numerous stakeholders concerned with port activity and these have conflicting objectives, it is important to use the political process to sort out their conflicting claims.

Considering the wide range of responsibilities that should remain in the public sector, it is necessary to determine whether these can best be undertaken by a national authority or a number of local authorities. The US has relied on state and municipal port authorities to undertake these responsibilities. Europe has relied primarily on municipal governments. In Asia, there has been a preference for national port agencies, but individual port authorities are becoming more important with national authorities limited to system planning and advocating changes in government policy.

## **X. BEST PRACTICES**

The subject of this report presumes that privatization represents the most effective method of managing port development, investment, and operation. If privatization refers to private ownership of the port and its lands, then experience worldwide does not support this assumption. The leading general cargo ports of the world are public ports. In Asia, the ports of Singapore and Hong Kong, China are among the largest and most efficient container and breakbulk cargo ports in the world, followed closely by the ports of Kaoshiung and Pusan.<sup>52</sup> Although publicly managed, each has a significant level of PSP in cargo-handling operations.

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<sup>51</sup> This should not be construed as an advocacy of capital and operating subsidies without consideration of the means for minimizing the costs of unprofitable activities. Many of the efforts to maintain fishing and passenger facilities in major ports ignore the potential to develop less costly facilities in areas outside of the port.

<sup>52</sup> The same applies for most of the major Northern European ports, e.g., Rotterdam and Antwerp and the larger US ports, e.g., Los Angeles/Long Beach, Savannah, and New York/Elizabeth.

They also have considerable private sector investment in individual container terminals and breakbulk facilities dedicated to neo-bulk operations for steel, wood products or other specialized cargos. While nearly all common-user ports in the region are publicly owned, privately-owned general cargo ports provide a significant amount of capacity.

The situation is different for bulk cargo, where the largest and most efficient facilities are in private ports located in Australia, Eastern Indonesia, Malaysia, and Singapore. Most of the bulk facilities in India and PRC are publicly owned but these are less efficient. They function as common-user facilities, whereas the private terminals are dedicated facilities.

The majority of privately owned port facilities, whether bulk, breakbulk or containers, are individual terminals operated by the owners of the cargo. They are often located in the same harbor as the public port or at separate sites along rivers or in naturally-protected areas. There are relatively few examples of private common-user ports. The best known are the ports in the UK which were converted to this status over the last decade. There are a number of proposals for private ports in India of which the first to be operational is Pipavav. However, the long-term success of these ports remains in question.

#### **A What Defines Port Privatization?**

The criterion for privatization - that all assets, including land, must be privately owned - explains the paucity of private, common-user ports. If this criterion is relaxed to private ownership of all assets other than land, but with public control over development of port facilities and waterside access, then the number of qualifying ports increases substantially. Hong Kong, China and many European and US ports would now qualify, since they are a collection of private terminals on land leased from the public landlord.

These distinctions are more than an exercise in semantics. They identify a basic characteristic of private sector involvement in the port sector - the continuous range of options for private sector ownership of port assets and management of port assets and operations. The transfer to the private sector of a port, all of its assets and its license to provide cargo-handling services, represents a major political effort. It requires rewriting of port laws, transfer of the labor force from the public to private sector, and redefining the public responsibility for maintenance of water and landside access to the port. Given the high cost of this endeavor, most countries have hesitated. Furthermore, the marginal benefits of this approach have not been immediately demonstrated. As a result, most countries have focused on more incremental approaches to increasing port privatization.

***Best practice does not support the wholesale privatization of existing public ports. Best Practice supports a policy of promoting the development of private cargo-handling terminals and allowing them to compete for third party cargo.***

Public port activities have been transferred to the private sector in order to achieve specific, but often conflicting goals. Among these are the financial goals - reducing government subsidies, raising money to reduce the national debt and mobilizing private resources to finance new port development, and the operational goals - increasing operational efficiency and improving the quality and timeliness of maintenance of port assets. There are also commercial goals - improving the quality of service, extending the range of services and promoting the businesses of the port, and policy goals - reducing the size of government and its involvement in commercially viable activities.

While increased PSP can address all of these goals, the success in achieving them ultimately depends on competition. The replacement of a public port monopoly with a private monopoly or duopoly provides short-term gains in efficiency and productivity but is unlikely to achieve long-term improvements. Fortunately, it is not difficult to introduce competition in the port industry. Competition can exist both horizontally between providers of similar and complementary services and resources and vertically among the providers of services on a logistics chain. Horizontal competition requires careful allocation of port facilities so as to guarantee at least two, and preferably three, private parties compete in the same market. Vertical competition requires that different parts of the logistic chain are able to organize and negotiate with the other parts, as shipping lines and alliances have done with the ports.

Where competition cannot be achieved, it is necessary to establish some level of contestability. This can be achieved through:

- A competitive tendering process for PSP in port activities.
- Agreements which reward efficiency and growth in traffic.
- Provision of basic infrastructure by the public sector.
- Provision of basic services for smaller users.
- Allowing shipping lines to provide their own services limits on:
  - the period of the agreements,
  - new entrants to port businesses, and
  - the protection for pioneer or high risk undertakings.

***Thus, best practice requires that the port privatization provide a strong element of competition and, where this is not possible, significant contestability.***

## **B. Private Ownership**

Private ownership of port assets most commonly refers to equipment and facilities. Much less common is private ownership of land and basic infrastructure. The sale of public port land to the private sector is difficult for a number of reasons. The first is a legal question regarding the right of private ownership of land, especially foreshore. Some countries prohibit the sale of public land or at least the coastal land, especially the foreshore. Others prohibit the freehold ownership of all land. The problem of transfer of land can generally be overcome through longterm leases, i.e., 50+ years, which effectively transfer ownership and allow the private sector to use the land as security for raising capital.

Many countries are reluctant to transfer port land because of the strategic concern that there are only a limited number of sites available for developing deepwater port facilities. Advances in civil works have considerably increased the number of developable ports sites, albeit at significant cost. The difficulty is that the commercial value of developable coastal land is usually far in excess of the economic value of port land. Public ownership of port land and the restricted use of that land for port purposes has allowed ports to limit the charges for cargohandling services.<sup>53</sup> Private ports and special-purpose terminals have avoided the problem of

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<sup>53</sup> For example, the commercial value of the land in Bombay port is far in excess of the value of port assets or the port business.

costly shore front land by limiting their land area or locating in greenfield sites far from developed areas.

Private ownership of public port infrastructure including channels, breakwaters and quay walls has been limited because of the difficulty in creating a viable business activity. Not only are the assets long-lived but it is also difficult to earn the kind of returns expected in the private sector. There are similar constraints on private ownership of the transport infrastructure serving the port. Road and rail links generally handle a limited volume of traffic so that the financial returns are low. The private sector will finance only short linkages because of the long payback period associated with these investments. Specific tariff items such as port dues, wharfage or dockage exist to recover the cost of these assets, but the period of recovery is generally 20-50 years, with a discount rate of only 6-12 percent in real terms. Frequently, the national or state government subsidizes the cost of this infrastructure so that only part of the costs are covered through port charges.

It is possible to attract private sector investment for these types of investments through a build-lease-transfer arrangement where the private sector constructs the infrastructure and then leases it to the port. In effect, the port pays the private sector cost of capital. A variation is for the port to issue debentures which are purchased by major port users or other private investors. In both situations, the port assumes the commercial risk and carries the liability on its balance sheet.

The transfer of public port facilities and equipment to the private sector is relatively easy by comparison. The preferred mechanism is a long-term lease or concession since it avoids the complication of a transfer of land. The sale of existing equipment is relatively easy for mobile equipment but more difficult for fixed equipment. The latter tends to be leased as part of the facility. Where the private party constructs the facilities and procures the equipment, they retain ownership through the period of the agreement. Where the period of the lease/concession extends beyond the period of depreciation, the assets are owned free and clear. For shorter period leases, the ownership of superstructure and fixed equipment is generally transferred back to the port at the conclusion of the lease and the private sector is compensated according to an agreed formula (typically, the depreciated value of the assets).

Private ownership of facilities and equipment offers three distinct advantages in addition to mobilizing private financial resources for an investment which is off the port's balance sheet. The first is the lower price that the private sector pays for these facilities and equipment through negotiation rather than public tender. The second is the higher quality that can be obtained by procuring without a lowest cost criteria. The third is the lower level of investment as a result of private sector concern for maximizing utilization of existing assets rather than procuring new ones.

The disadvantage of private ownership of facilities and equipment is that it can represent a considerable barrier to entry for potential competitors. New entrants must be prepared to quickly capture market share by providing better service at comparable or lower prices. This is difficult to accomplish when the established service provider is operating a partially-depreciated facility with lower debt service and a strong positive cash flow. The situation is aggravated where the cost of new facilities is greater than previous facilities because the sites for expansion are more difficult to develop. In these situations, public investment in facilities may be required to promote competition.

***Best practice supports private control of facilities and equipment through leasing and concession arrangements. Ownership of fixed equipment and facilities within public ports would be arranged through long-term concessions. Outright ownership of land and facilities would be limited to private ports and terminals. Ownership of public port land and infrastructure should remain with the public sector but long-term leases can be used to simulate private ownership. Construction should be undertaken by the private sector. Financing should be arranged through the private sector but with the long-term liability assumed by the public port.***

### **C. Private Management**

The greatest successes in the area of port privatization have been achieved through the transfer of management functions to the private sector. This applies most particularly to operations and marketing. Public ports have had considerable difficulty managing both the labor and technology involved in port operations.

Throughout the world, port labor has been effective worldwide in establishing strong unions and in negotiating for a significant portion of the economic rents associated with port services. They have been resistant to changes in work rules and new technology. The reform of labor has frequently been at the heart of efforts to privatize port operations but recent experience has produced ambiguous results. In the U.K., the privatization of the ports was accomplished only after a decade spent on reforming port labor. Part of the benefit of privatization was to maintain these reforms. During the same period, the managements of the ports of Singapore and Pusan worked continuously to improve labor productivity. They were able to maintain labor peace due to an expanding labor market and growing traffic levels. Singapore's decision to corporatize did not involve labor issues but rather access to international capital markets. In Australia, the private sector provides cargo-handling services but labor reform remains elusive and work stoppages and poor labor productivity continue to be a problem. In New Zealand, the government was able to introduce significant reforms in port labor but then chose not to privatize the port operations.

Despite the variation in experience, the majority of experiences in developing countries suggest that the private sector is better able to reform labor practices, improve productivity and accept modern technology. The ports of Malaysia, Pakistan, Thailand, parts of India, the Gulf region and most of Latin America have relied on the transfer of port labor to private control as a means of improving productivity and overall efficiency. Some large ports, such as Nhava Sheva and Colombo, have sought to improve public sector efficiency by having private operations compete directly with their public operations. PRC has relied on joint ventures to provide improvement in productivity.

The area of technology is another in which private operations appear to be more effective. While public ports have struggled with the introduction of computer systems for managing everything from routine billing, accounting and inventory control to cargo tracking and EDI, the private terminal operators have produced PC-based systems which can be easily installed and used in terminals throughout the world. While public port operations have been burdened with non-performing and difficult to maintain equipment from various manufacturers in different countries, private operators have quickly standardized their suppliers of equipment based on performance and reliability.

The public ports have introduced new technology but in different ways. Much of the innovation in port technology has been provided by large public ports, such as Rotterdam and Singapore, which have the size and resources to devote to these efforts. The private sector has introduced new technology only when it has been demonstrated to be effective. Public ports have been more willing to invest in high profile equipment such as Post-Panamax cranes while the private sector has been more successful in utilizing existing technology.

Along with higher labor productivity and more reliable equipment, the private sector has also been able to introduce better management systems. Public ports frequently lack professional management and senior positions are often filled through a political selection process. Furthermore, there is a layer of bureaucracy separating those responsible for operations from those who manage the port. In contrast, private operations have very thin management structures with clear assignment of responsibility and accountability. Compensation and job status are related to performance and the contribution to operations.

The marketing of port services has received little attention in public ports. Traditional assumptions that most cargo is captive and that public services do not require promotion have prevented public port managements from addressing marketing requirements. Where threatened by competition, they increase market research, advertisements, inter-port alliances, and international relationships, but none of these have a direct impact on markets. In contrast, the private sector introduces direct marketing measures, generally denied to the public ports. These include discriminatory pricing, differentiation in the quality of service, and preferential access to port services and resources. Where public ports have privately operated terminals, the direct marketing is done by the private sector. This includes negotiations with shipping lines and major shippers, based on commercial pricing and differentiation in the quality of service provided. Some public ports, such as Singapore, have been given the latitude to undertake direct marketing efforts by relaxing regulations on pricing and common-user access.

Despite the inefficiency of public management, the option for replacement of public port administration with private management is limited by issues of government sovereignty, public interest, and public ownership of port land. Public ports continue to perform regulatory functions related to health and environment, common access to facilities and economic regulation of charges to users. They also act for the government in preparing development plans for the port. Until these functions are reassigned, it will be difficult to increase the private sector's role in port administration. For smaller public ports that do not exercise these functions, private management can be introduced through management contracts. These can be introduced whether or not the ports are financially viable.

***Best practice argues strongly for complete privatization of port operations and marketing but not for privatization of general port administration, except in smaller ports which do not have regulatory and development responsibilities.***

#### **D. Private Investment**

Public ports have traditionally relied on three sources of finance for capital investment: retained earnings, debt, and government capital subsidies. Larger ports have benefited from their size and monopoly position to acquire considerable capital reserves from which a large

portion of their investments are made.<sup>54</sup> Most public ports are constrained from using commercial debt.<sup>55</sup> The debt has been primarily in the form of loans from MDB's, bilateral aid, export credit agencies and government institutions. These sources provide longer terms and lower interest than commercial loans. In some cases, the government has acted as an intermediary, on-lending these funds at a higher interest rate while assuming the foreign exchange risk. Capital subsidies have continued to be important as a source of finance for the development of new ports and the maintenance of smaller ports, especially those developed to provide life-line services. Subsidies are rarely used for the expansion of existing medium to large public ports since they usually have a strong positive cash flow.

Modern financing techniques were first introduced into port development by the private sector. The multinational terminal operating companies and the shipping lines relied on a variety of sources of funds to develop terminals in public ports. Although commercial debt was a primary source, stock offerings, debentures and project finance have become increasingly important. Now the larger public ports have begun to avail themselves of these funds. Pusan's innovative use of debentures to fund the first phase of Kwanyang Bay and Singapore Port Corporation's issue of US\$250 million in variable rate bonds represent what is expected to be a growing use of the international bond markets. Port Kelang's use of a stock initial public offering as part of its first container terminal joint venture has not been replicated but is likely to receive more attention when the Asian stock markets return to good health. Mezzanine financing by privatized pension funds, insurance companies and other institutions looking for reasonable returns with low risk has been important in Latin America and is expected to play an increasingly important role in Asia. Domestic bond markets have not reached a stage of maturity in most developing countries but their success in the US is likely to be replicated in the future.

Many public ports have sought to participate in private investment in ports through mechanisms such as joint ventures or concession agreements where the port assumes control of the assets, e.g., build-lease-transfer and build-transfer-operate. While these provide a useful transition for governments which are reluctant to allow complete private operation, they may also be a mechanism for retaining public control over operations. Arguments are made that these arrangements provide a transfer of technology and management skills from international companies to the port, but this implies continued public sector involvement in operations. Management buy-outs and employee stock ownership plans are other mechanisms for easing the transition to full privatization of ports, but they create the risk of a private monopoly by the same parties that operated the public monopoly. They have also provided a mechanism for the existing management to capture most of the value added from the conversion from a public port to a private port. Corporatization of the port, followed by a public share offering, is another mechanism that allows public sector management to continue. If these arrangements are to be successful, the public port must act as a passive investor providing representation of the public interest in corporate policy.<sup>56</sup>

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<sup>54</sup> Perhaps the most extreme examples are Singapore and Mumbai, both of which have acquired more than US\$1 billion in cash reserves. However, there the similarity ends. Singapore has used its retained earnings to finance all past capital investment often exceeding US\$100 million per year. Mumbai has lent out its surplus to other port trusts while making minimal investments in its own facilities.

<sup>55</sup> During the boom years in Southeast Asia there was increasing use of lending from domestic banks, often with the encouragement of the government.

<sup>56</sup> As the Malaysians were able to do so effectively with their golden shares.

***There are no best practices for private finance of port investment. This remains an area in rapid evolution, not only in the port sector but for all public infrastructure. The increased use of private investment is a necessary complement to privatization.***

## **E. Institutional Reform**

Port privatization, in its broadest sense, addresses the fundamental question of the type of institution that should control the port sector. The arguments for private control of operations and private ownership of assets other than land are well established. The argument for private control of administration is not. The issue to be resolved is, which mechanism is most effective for development of the port sector? Should it be a free market guided by profit and subject to minimal regulation or a public body guided by public interest?

Current practice argues for the latter, but there remains the problem of deciding on the type of public body which best represents the public interest. The primary ones in use are:

- A Harbor Board which allocates land for private development.
- A Port Authority that develops the port land, often in conjunction with the private sector, and retains control over port activities as a landlord.
- A Port Corporation which is wholly government owned with powers similar to an authority but governed by a board and having greater financial accountability.
- A Port Corporation with mixed public and private ownership but with powers similar to an authority.
- An Independent Regulatory Agency responsible for technical and limited economic regulation of port activities complemented by a national planning department responsible for public investment in port infrastructure.

The first three have been introduced in a number of countries. The second is popular in the US and in East Asia. The third has become increasingly popular in Southeast Asia and Europe. The fourth option has begun to appear as ports seek to mobilize private capital for infrastructure development. The fifth option remains popular among development agencies. Current thinking argues for the separation of regulatory and administrative functions with the former being assigned to an independent agency and the latter being retained by a port corporation but it is too early to argue that this represents best practice.

***Best practice argues for continuing involvement of the public sector in the planning and development of basic port infrastructure and technical regulation of port activities through an authority or corporate structure.***

## **F. Top-Down Reform Versus Bottom-Up Restructuring**

The transition from an inefficient public operating port to an efficient, commercially operated landlord port can follow different paths but will generally lead to the same conclusion, a number of private and mixed public-private companies providing port services under contractual relationships with the owner of port land and infrastructure. This transition takes place at two levels, the divestiture of individual port services and the commercialization of the port administration. Efforts to reform the port sector can follow one of two approaches, a top-down reform of basic port institutions and a bottom-up restructuring of port activities.

The top-down reform from a government department to a public authority or corporation and finally to a commercial, limited-liability company involves considerable time and changes in legislation. It requires a rethinking of government policy towards ports and public service. This reform is usually done without the support of the port bureaucracy or the political appointees who benefit from both the power and inefficiency of the existing institutions.<sup>57</sup>

The top-down approach is not only slower but produces a corporate structure that continues to perform port operations. It changes the institutional structure but not the management. One of the remarkable elements of the transformation of the port sector in Malaysia through corporatization of its ports is the low turnover in management personnel. This is not unreasonable since the pool of persons experienced with port administration is limited but it also means that many practices and attitudes remain unchanged. There have been changes but these are the same as might have occurred with public port administration. This phenomenon can also be seen in the UK management buyouts.

The bottom-up approach provides a more rapid and dramatic form of institutional change. Most port legislation allows, either explicitly or implicitly, for the transfer of port activities and assets to the private sector for a limited period of time. This transfer allows for a complete change in management and working conditions. The pace of change can be adjusted to local conditions, in particular the willingness of labor to accept change and the development of local capacity to manage port activities, but the pace will be determined by a new management. Of equal importance, this approach allows for some experimentation in developing new contractual relationships between the public and private sector and allows the process to build upon its successes.

Since the top-down reform of the port institution is a slower process, it can often proceed in parallel with the bottom-up transfer of port activities. In this case, transfer of port activities represents the critical path. By the time that the decision is made to corporatize the port or to transfer its responsibilities to an independent national agency, all port activities should have been transferred to the private sector. The objective would then be to select the institution best suited to hold title to public land, administer contracts between the government and the private sector and enforce regulations with regard to health, safety and anti-competitive behavior.

***Although the experience with reform of the institution responsible for management of the port sector remains limited, best practice supports a bottom-up approach.***

## **G. Privatization of Individual Port Activities**

The considerable experience with bottom-up restructuring has led to a better understanding of the appropriate options for increasing PSP in each port activity. The selection from among these options depends on the condition of the existing port assets, the scale of

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<sup>57</sup> Many countries have relied on their Ministries of Finance to accomplish this task. Mexico and Colombia initiated their port privatization efforts by liquidating their port administrations. Chile attempted to do the same but it has required nearly a decade to eliminate the national port authority, Empresa Portuaria de Chile. Despite this delay, private concessions and operating contracts have allowed the Chilean ports to achieve substantial increases in efficiency. In Argentina, the National Port Authority, continues to function and to employ a sizeable staff even though all port services and facilities have been concessioned.

activity, the capacity of the local private sector and the existing level of private sector involvement.

The port activities are usually divided between services to the vessels including:

- Pilotage.
- Towage.
- Mooring.
- Dredging.
- Utilities.
- Ship repair.
- Environmental services.

Services to the cargo including:

- Stevedoring.
- Wharf-handling.
- Transfer to Land Transport.
- Storage.
- Processing (Consolidation, Bagging, Mixing).
- Cargo tracking and EDI.
- Security.
- Rental of specialized equipment.

Pilotage is generally retained as a public sector function. It is a mandatory service in most ports and requires experienced personnel, usually former sea captains. This activity has created difficulties because it is a natural monopoly and charges non-market prices throughout the world. However, this activity concerns safety of vessels and requires certification of the pilots. So far, there has been little success in privatizing this activity. Where this has occurred, as in the US, the private monopoly has not delivered reductions in costs or improvements in service.

Towage is one of the easiest port services to privatize. Public ports have difficulty maintaining tugboats and controlling the size of the crews. The transfer to the private sector is accomplished through a sale of assets and deregulation of the provision of services if there is sufficient traffic to support open competition. If the traffic is limited, the port can contract for private management of the tugboat service combined with a dry or wet lease of the vessels.

Mooring is a low skill activity performed by individual gangs. This activity can be easily deregulated allowing for private supplies or direct hiring from the union halls.

Dredging is a specialized activity that can be divided between capital and maintenance dredging. The former is generally accomplished through international tenders. The latter is usually performed by the port because it is a continuous process involving relatively small volumes. In this situation, the port can place their dredges and crews under private management through a wet lease arrangement together with a long-term contract for service. This will allow the private operator to utilize the dredges for other work thus spreading the fixed costs while at the same time committing the operator to providing a guaranteed level of service. In smaller ports, the dredging technology is relatively simple and can be managed by local

contractors. In larger ports, this activity involves more sophisticated dredgers but the private sector usually has some experience with reclamation activities.

Utilities, including electricity and potable water for the vessels, are provided by the local public/private utilities. The distribution systems within the ports are managed by the port as a common service and remain a public sector responsibility.

Ship repair is a separate activity from the port. In the past, there was a strong linkage between public ports and public dockyards. Today most of the industry has been privatized and what remains in the public sector is being sold.

Environmental services are increasing in importance with the implementation of the MARPOL Conventions. The normal handling of ship's garbage has been extended to the collection and processing of oil wastes and containment of oil spills. These functions are contracted from the private sector. The port may enter into a general contract for these services. Where there is sufficient volume, direct competition can be introduced.

Cargo-handling services including the movement of cargo between vessel and wharf, wharf and storage, and storage, and land transport can be transferred to the private sector as deregulated services or through terminalization of the cargo-handling facilities. With the former, the vessels and the cargo owners contract directly with the private cargo-handling companies which then handle the cargo at the berth where the vessel is located. With the latter, cargo-handling companies are given control over specific berths and backup area through a lease or concession arrangements. These companies then provide services to the vessels calling at their facilities. Open competition among cargo-handling companies is used for general cargo operations, which do not require expensive equipment and dedicated storage. Terminalization is used for bulk and container operations where volumes are sufficient to justify investment in fixed equipment and tight integration of the berth and the storage area is required.<sup>58</sup> It has also been introduced where the number of berths handling breakbulk cargo is sufficient to allow a number of competing terminals to be established and where efficiency requires that the berth and backup area be integrated.

Storage near the berth is controlled by the cargo-handling companies which either lease or rent the space. Warehousing and other long-term storage is managed by private companies which lease these facilities from the port. Cargo processing services including consolidation, bagging and mixing are provided by the cargo-handling or warehousing companies.

Cargo tracking is performed by individual terminal operators or shipping companies. EDI services require a pooling of information from the port, customs, the shipping lines and the forwarders. Public ports often take a lead in the development of these systems because of their neutral position in the exchange of commercially sensitive information. The ports contract out the development and maintenance of the information systems but maintain overall control of the transfer of data. The EDI systems are evolving towards a more distributed structure in which data is more easily interchanged. In the future, the role of the port in EDI is expected to diminish and that of the individual logistics companies to increase.

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<sup>58</sup> A notable exception is the port of Valparaiso where private stevedoring companies competed for the handling of containers with each providing their own mobile yard equipment.

Security is divided into three areas. Security for waterside access is usually provided by the government through its navy or coast guard. Security within terminals is provided by the terminal operators. The port provides security for landside access and for the common areas within the port boundaries. The port may contract for private security services but the powers of arrest and seizure cannot be delegated to the private security services. Instead, they would liaise with local law enforcement.

Rental of specialized equipment such as floating cranes is difficult to transfer to the private sector because of the difficulty in creating a commercially viable activity. However, the operation and maintenance of this equipment can be outsourced to the private sector.

***Best practice in the transfer of individual port activities to the private sector emphasizes the need for an activity-by-activity analysis, taking into account the condition of existing assets, the need for integration of different activities and the level of competition which will result.***

## XI. THE PRIVATIZATION PROCESS AND THE ROLE OF ADVISORS

The transaction involved in transferring port activities from the public sector to the private sector has become somewhat easier over the last decade. Yet, for each country and each port, the initial transactions remain problematic because of the conservative nature of port bureaucracies. The first agreements tend to be long and cumbersome, replete with clauses to limit the financial, legal and political liabilities of the government as a result of the transaction. It is only after the initial transactions have been in effect for a while, that the expectations of both parties become more realistic. Then the agreements can be simplified and the process made easier and more transparent. Greater attention can be given to designing agreements that will promote the growth of traffic and foster competition.<sup>59</sup>

In order to develop effective agreements, the port management needs to analyze its market and identify its commercial objectives and then define its legal and financial environment. This need not be a lengthy process, but should include the following:

- **A strategic review** of the market that the port serves, the competition in the market, port productivity and work rules, the strengths and the weaknesses of the public port and the private sector in serving this market, and a clear statement of the objectives for increasing PSP.
- **A financial evaluation** in three stages:

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<sup>59</sup> Neither the tendering process nor the contract documents can provide complete protection against poor performance on the part of the private sector. It is better to have clear procedures and simple contract documents and to rely on market forces, common objectives, periodic negotiations and mechanisms for early termination, especially in the environment of international trade and shipping, where services and performance standards evolve rapidly.

- First, restructure the accounts, value the assets<sup>60</sup> and revise the financial structure to allow for an unencumbered transfer of assets and services to the private sector.
- Second, develop cash flow projections for different contractual arrangements to determine the impact on the port's financial position and its ability to fund its residual activities and investments.
- Third, develop financial criteria to be used in evaluating proposals from the private sector.
- **A legal review** in two stages:
  - Determine what form of arrangements are possible under the existing law and what changes in the law would be required to introduce "better" arrangements.
  - Develop the basic contract document for the arrangement that has been selected.
- **Discussions with potential bidders** - both informal discussions prior to tendering, and formal discussions during tendering and contract negotiation.

The strategic review identifies the services to be transferred, the type of arrangement with the private sector which would be most effective in achieving the port's objectives and the basic terms and conditions of the transfer given the markets in which the port operates. This review should be undertaken by independent technical consultants who are able to objectively assess the strengths and weaknesses of the public port organization. They would:

- Identify and prioritize the primary objectives of the government, the public port, and the private sector in undertaking this initiative.
- Determine if there is sufficient competition in the logistics chain to regulate the activity of the private sector.
- Specify the regulatory mechanisms that exist or are needed if there is insufficient competition.
- Assess the impact on port labor of the alternative mechanisms for downsizing and transferring government employees to the private sector.

Based on their findings, they would assist in the preparation of heads of agreement, design of the tender process and prepare the other basic bidding documents.

The tender process involves a series of steps - advertising, pre-qualification, bidding, bid evaluation, and negotiation. The transparency of this process is important where the government is seeking a high-level of interest on the part of the private sector. The procedures

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<sup>60</sup> Valuation of assets may be required where these assets are to be sold. It has little relevance to the process of valuing port businesses.

for bidding and negotiation should be well established prior to public announcement of the tender.<sup>61</sup> These procedures need not be complex, but should be consistent with government requirements and with the objectives of the port.

These negotiations with the interested parties occur at each stage of the process. Negotiations prior to bidding include both informal and formal discussions with the private sector. The former are held to determine the private sector's interest and potential involvement in port activities and to obtain a sense of what agreements, general conditions, and allocation of risks would be acceptable to the private sector and its potential lenders. Negotiations with labor should be kept separate. The port and its employees should resolve questions related to downsizing. Labor and the private sector should determine the terms of future employment.

The pre-bid conference is the formal mechanism for modifying the proposed contract documents in order that both parties will benefit from pursuing the stated commercial objectives. It can also be used to identify the performance measures that are acceptable to both parties and that can be used to evaluate the success of the agreement in achieving these objectives.

Negotiations following the awarding of the contract are limited since the terms of the contract have already been agreed to. However, it is important that representatives from all interested parties, i.e., the port management, the winning bidder, their respective legal counsels, the principal lenders (if major investments are to be made) and the regulatory agencies involved in contract enforcement, participate in clarifying the commitments of all parties. Where the government commits to complementary investments or to provide land and infrastructure, the implementing agencies should also participate in the final negotiations.

"Best practices" is in reality about processes. The agreements are improved through a strategic, legal and financial analysis at both the exploratory and implementation stages of the privatization. This may simply require giving advice or may extend to taking an active part in the evaluation and negotiation.

## **A Strategic Review**

The goal of the strategic review is to develop an effective private-public partnership that allows both parties to work together to achieve their common objectives and that promote a competitive selection process. This process requires some degree of outside assistance to ensure both objectivity and an understanding of experiences elsewhere.

The design of effective contractual relationships requires an understanding of the future demand for port services and the resources required to provide these services. These resources include human resources as well as equipment and facilities. Technical advisors can assist public port managements in determining this information. They can assist the management in defining the ports objectives related to increasing PSP. These objectives need

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<sup>61</sup> While there are important reasons for proposing transparent competitive bidding, it is important to recognize that this process has failed in a number of situations where the winning bidder has made an offer considerably above the others in order to secure a potential monopoly or to exclude potential competitors. Since individual bidders will have their own objectives and these may not be consistent with the objectives of the government, it is important for the government to be able to make subjective evaluations of bidders and their proposals to meet these objectives. The business plan submitted with the bid can provide an indication of these objectives.

to be placed in the context of the markets that the port serves, their potential for growth, and sensitivity to improvements in the quality of service and the pricing of these services. They can evaluate the services currently provided to the port user and develop alternative scenarios for the allocation of these services between the public and private sectors. They can evaluate the potential for improving port services and for developing competition under the different scenarios.

This market assessment is translated into a forecast of the future demand for port services. The current productivity of port assets and services and future improvements are used to determine what assets will be required to meet future demand. This includes new assets that need to be procured by the private sector and the public sector to provide an efficient service. The complementary services to be provided by the public sector are also determined. These include both general port services and landside access to the port. These estimates are then translated into a stream of revenues and expenditures from which it is possible to determine the value of the business being offered.

Technical advisors can also assist in determining how to create a competitive environment through division of the port facilities among competing service providers. If there will be a single service provider, then they can develop competitive bidding procedures together with performance requirements to ensure the quality and efficiency of the services provided. They can also assist in the tendering process beginning with an inventory of the available equipment and facilities, their specifications and their condition and a survey of private sector companies with possible interest in bidding. This would be followed by assistance in the technical aspects of the pre-qualification and bid evaluation.

## **B. Legal Review**

At the exploratory stage, various legal constraints on an expanded role for the private sector need to be identified. The first set of constraints is the existing laws and regulations governing the ports. Most countries have specific laws for their ports and harbors that define the existing limits of the port agency's powers (Can it sell real estate? Can it enter a long-term lease?). Other constraints relate to alienation of government property (Are there prescribed methods to be followed? Are there time limits on leases/concessions, customs law, and labor laws?) Finally, there are the general laws that regulate the activities of public and private corporations as well as corporate tax laws. Since each privatization transaction is unique, the laws to be considered will vary.

A specific area of concern is the legal limitation on foreign investment in the country. If only a small percentage of foreign ownership is permitted or the repatriation of profits is restricted, then foreign investors may not be interested in participating. Conversely, there may be incentives that the host country offers to foreign investors, for example, an exemption from customs duties for materials imported for the construction of a port concession, tax holidays for new enterprises, free ports, free trade zones, and tax exclusion zones.

Another set of laws to be assessed are those pertaining to competition including antimonopoly provisions. These are well established in North America and Western Europe. Many of the Eastern European countries looking toward membership in the EU have also adopted EU-type competition laws. These are not yet common in Asia but are evolving as the economies become more competitive. These laws can affect who is allowed to bid for the port contracts,

leases and concessions. It is now common in bidding for port concessions to find regulations that prohibit ownership of multiple port facilities by a single owner.

The analysis of laws and regulations will identify changes that need to be put into effect prior to privatization. However, amendments to the existing law can be time consuming, and are often difficult to achieve, because they require approval of the national legislature, as well as the executive branch of government. It is preferable to design contracts that work within the existing laws, rather than to push for changes.

The impact of the nation's labor laws and policies are another area requiring scrutiny and is often a major concern. The legal advisors should determine the formal constraints imposed by labor laws, but also examine the reasons for opposition from organized labor. The legal advisors can then assist the port in reaching an understanding with the labor leaders so that the privatization will have good results for union members.

In the implementation stage, both local and foreign legal advisors should be used to assist in drafting the tender documents. These include the advertisement, pre-qualification form, tender documents with pro forma contract, and instructions governing the tendering process. The contract documents should be based on contracts that have been successful for other transactions in the country or in other countries as well as local real estate contracts. The legal advisors should also prepare draft laws and regulations to be introduced to facilitate reform of the sector and to facilitate the privatization efforts.

Once the privatization documents have been drafted, edited, and assembled, the port and the proponent will retain legal counsel to advise them during the bidding process and subsequent negotiations. Their role would vary depending on the country and the complexity of the privatization process. The role of the legal advisor can be limited to drafting terms and conditions agreed to by the parties or can be pro-active not only performing legal research during the exploratory phase but also acting as an "honest broker" during the implementation phase. This pro-active role is more important in developing the agreements when there are no legal precedents within a country. Follow-on agreements will require much less input. Unlike the power and water sector, where the critical elements are the legal documents, since they define precisely the responsibilities of each party to the agreement, the port sector agreements are less formal and provide flexibility to meet commercial requirements.

### **C. Financial Review**

The various strategies for increasing PSP involve major financial transactions. Port reforms involving commercialization and corporatization as well as transfers to the private sector through outsourcing, leases, concessions and sales/purchase agreements require some degree of financial counseling to ensure that the transactions are completed in an expeditious manner and that the port realizes the value of the services and assets transferred to the private sector.

The value of these transactions derive not from the liquidation or replacement value of the assets but rather from their ability to generate a positive cash flow. This cash flow is a function of the growth in the market, pricing of the services, inherited cost structure (including

restrictive labor practices), and the transferred liabilities. The arrangement should be designed to create incentives and share risks in a way that will maximize the value received by the port.<sup>62</sup> The type of contractual agreement is important because it will determine the amount of funds generated from the transfer and their schedule of payment to the port. These funds are important because they represent the capitalization of existing assets in order to fund the acquisition of new port infrastructure.

Financial advisors can enhance the value derived by the port from the transaction in two ways. First, they can enhance the value of the port's businesses by proposing:

- Tariff revisions and reforms.<sup>63</sup>
- Commercial accounting systems and financial statements.
- Financial restructuring of the port or its subsidiaries.

The introduction of commercial accounting systems and financial restructuring also contribute to port reform by improving financial management of the port. Second, they can be employed to prepare:

- A valuation of fixed assets (required for government approval of the transfer).
- A financial evaluation of the business units.
- Cash flow projections for different traffic scenarios and economic situations.
- Cash flow projections for the port and the private sector for different payment structures between the port, the private sector, and the port users.

These are used to evaluate alternative financial arrangements between the port and the private sector.

#### **D. Investment Review**

Another form of advice required for port privatization involves structuring public offerings of debt and equity. For commercial bankers' loans, the lender acts as the financial advisor. Prior to arranging the loans, the lender will perform a due diligence appraisal of the proposed investment including market surveys, engineering review, and financial analysis applying a generally accepted accounting principles analysis. The format of this appraisal is similar to that applied by the MDB's for sovereign loans, but focuses on the balance sheet and the project's cash flow. Typically, the lender stipulates which professional organizations will perform the components of the appraisal and the port will pay for their services.

Ports wishing to issue debentures in long-term capital markets will retain investment bankers to appraise the investment, advise the port on where to place the debt (in domestic or international markets) and the expected cost and terms of repayment for the debt, and prepare

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<sup>62</sup> This should be accomplished by reducing the costs to the private sector rather than increasing the costs to the port users.

<sup>63</sup> While this role has traditionally been undertaken by accounting firms as part of the effort to produce "cost-based" accounting systems, the results are a regulatory pricing system rather than a commercial pricing system. The commercial pricing should be developed by those familiar with the markets served and the relationship between value and price in a competitive system.

the prospectus and complementary documents for the debt issue. They will assist in negotiations regarding the financial covenants that the port must agree to and the insurance and other forms of risk mitigation required by the lenders. They will also determine if the debt is to be sold through private placement or through public sale. Finally, they will arrange for registration of the debt, determine the timing of the issue and arrange for underwriting of the issue if it is a public placement. For these services, the banks will collect a fee that will vary with the size of the issue and the market in which it is placed but will typically range from three percent to five percent exclusive of the cost of the initial investment appraisal.

Investment bankers play a similar role in the issue of shares for sale to the public in the final stage of port corporatization. It is a more complex procedure because of more stringent requirements for the issue of common stock. It is more costly because of the greater risk assumed by the bankers who underwrite the issue of the stock and because of the uncertainty regarding the market's demand for the stock.

The advice of investment bankers may also be sought when developing concession agreements. Where the private sector is expecting to invest, they will have their bankers perform a pre-appraisal of the tender and seek a commitment prior to bidding. The port may also seek advice regarding the terms and conditions that should be included in the agreement to make it "Bankable", that is, make it attractive to the commercial lenders who will provide the funds needed by the private sector.

## **XII. THE ROLE OF THE ASIAN DEVELOPMENT BANK**

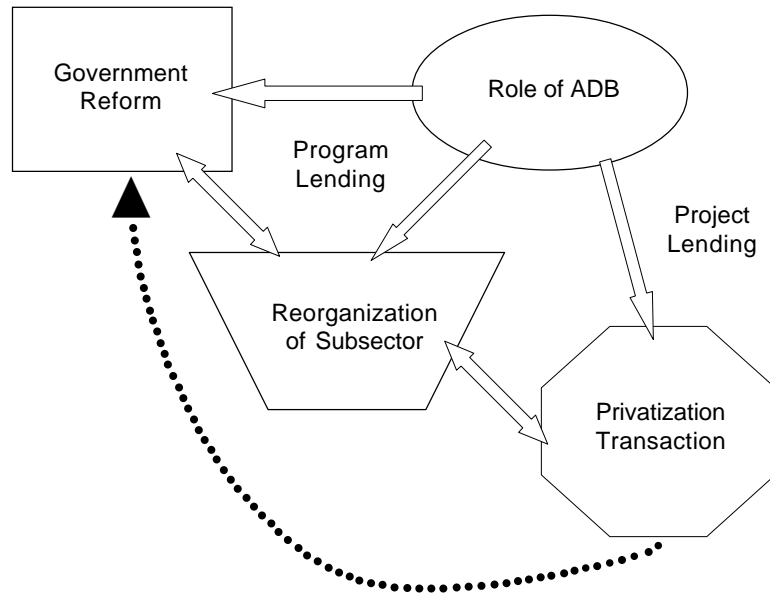
The successful expansion of PSP in port operations and investments has fundamentally changed the way the port sector is organized. It has also forced multinational agencies to reconsider their participation in this sector. Long-term lending is still essential for the development of basic port infrastructure, but the source of these funds is expected to shift from sovereign loans and government subsidies to regional infrastructure funds and private long-term capital markets, both domestic and international.

Efforts to increase PSP and to improve the overall performance of the port sector will continue at three levels as shown in Figure 2. At the national level, there is the reform of government programs and procedures for transferring SOEs to the private sector. This requires a strong initiative from the head of government and the creation of an independent agency to develop and implement the process in an efficient and effective manner. It also requires changes in laws and regulations to allow the transfer to be done in a well thought out and transparent manner. The Asian Development Bank (ADB) can contribute to this effort through its continuing policy dialogue with government in combination with structural adjustment loans. ADB can also undertake studies such as this to provide a worldwide perspective on what reforms have been introduced, how successful they have been and what environmental conditions contributed to their success or failure.<sup>64</sup> In most of ADB's client countries, the dialogue on privatization of parastatal organizations is already mature but the reforms are largely unfinished.

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<sup>64</sup> This should become an integral part of ADB procedures with the information drawn from on-going project work, country economic surveys and ADB's internal economic research.

**Figure 2: Three Levels Where Efforts to Increase PSP Continue**



At the sector level, there is a need to reorganize the port sector not only by facilitating the transfer of assets and responsibilities to the private sector but also by making the public sector more client-oriented in its planning for and investment in development of the port sector. This reorganization must address issues of decentralization, separation of management and regulatory functions and corporate governance. ADB can mobilize program lending to finance the costs of reorganization, e.g., retrenchment, restructuring the balance sheet, design of new by-laws, initial public offerings, etc. It can also arrange for the technical, legal, and financial expertise needed to identify the most effective means for accomplishing these changes. Finally, It can assist in the formulation of objectives and strategies for the reorganization.

At the transaction level, ADB can provide assistance to port managements for both the contractual and financial activities required to transfer specific services and assets. It is not necessary to complete the governmental reforms and sector reorganization prior to undertaking these transactions. In fact, implementation of these transactions demonstrates the objectives that these reforms should pursue and can speed up the process of reform. The contractual arrangements should be designed to conform with the existing legal framework but accommodate future reforms. ADB can assist public ports by identifying the range of activities necessary for an effective transaction and by providing technical assistance for those activities that the government is not prepared to undertake. The latter usually include the strategic and financial evaluation that precedes the transaction and the design and negotiation of the tender documents used in the transaction. ADB can also provide sovereign loans for complementary capital investments to be made by the public sector as part of these transactions. Finally, ADB can use its private sector window to provide funding for private sector investments required as part of the transaction.

### **A. Technical Assistance**

The technical assistance provided by ADB for port privatization is fundamentally different from that associated with its public sector lending. The effectiveness of this technical assistance will depend on both the scope of effort and the selection of expertise. Restructuring the port

sector requires assistance on strategic and financial issues to complement the government's effort in policy development and consensus building among the effected parties.

ADB's role in providing technical assistance for restructuring should include providing:

- Strategic advice on setting priorities as to which activities and services are most in need of increased PSP.
- Legal advice on constraints that would limit participation by local and foreign companies.
- Legal advice on international legal frameworks that are appropriate for port reform.
- Industry expertise on PSP in ports and shipping.
- Accounting expertise for developing commercial accounting systems based on business-unit that enable the port to evaluate and financially restructure those activities to be privatized.
- Tariff expertise to develop simplified pricing structures appropriate for commercial operations (rather than regulated prices) and a set of prices related to market demand (rather than accounting cost) which reduce cross-subsidization.
- Financial advice on the use of long-term capital markets for financing basic infrastructure.

The technical expertise should not only provide experience in similar efforts throughout the world, but should bring a commercial viewpoint to strategy development and a private sector perspective to financial evaluation.

The technical assistance for implementing the transactions should focus on developing legally and financially robust tender documents. The legal, financial, and technical advisors for this technical assistance need to be carefully selected.<sup>65</sup> ADB must work with government in defining the scope of the effort and in preparing a short-list of qualified advisors. Technical assistance could provide assistance in organizing workshops and promoting dialogue with port users to clarify the objectives and goals of the transactions.

## **B. Network Planning**

Despite the growing involvement of the private sector in port operations and investment, the government retains responsibility for sector level planning, especially regarding additions to the network. While the private sector is interested in identifying profitable components of the network, it is not concerned with developing the entire network. The projects for most private investments in network industries have usually originated from government plans. The policy of

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<sup>65</sup> Most of the major business consultant firms have separate practices for public and private sector work. One of the faults of the privatization effort is that they utilize the public sector advisors who are accustomed to longer-term efforts producing lengthy studies. Getting good results from management consultants, law firms and investment bankers requires an emphasis on results and a willingness to pay higher rates for shorter, result-oriented efforts. The MDB's have only recently been willing to except the fees of highly qualified lawyers and financial advisors.

encouraging private sector involvement in developing port facilities does not eliminate the need for developing a masterplan for the network. Indeed, the masterplans are needed to identify those investments that will provide the greatest benefit to the network.

ADB and other MDB's have traditionally played an important role in encouraging member countries to develop sectoral masterplans and to employ new approaches to this process. Improvements in the techniques for analyzing networks and a better understanding of the economics of networks have only gradually been introduced to the master planning process. In recent years, the emphasis has shifted from physical planning and more efforts in strategic planning. As port networks become more developed both nationally and internationally, it is necessary to look at the competitive advantage of individual ports with respect to various trades and to develop facilities accordingly. Both the type of facilities and the market that they are intended to service must be identified. ADB should continue to encourage its member countries to periodically prepare masterplans and to update them every few years based on strategic considerations. It can accomplish this through technical assistance and by requiring masterplans as a basis for financial support for public and private port investments.

### **C. Lending**

ADB's participation in the privatization process will be limited unless there is a direct linkage with an ADB loan. Even where a loan is involved, there will be strong resistance at the port level to external influence on the privatization transaction.<sup>66</sup> It should continue to provide long-term loans for investment in the port sector but at a lower level and with a narrower scope. Sovereign loans for investments in basic port infrastructure should be conditional on a lack of interest by the private sector to undertake these investments. Further, the economic project evaluation should establish not only that there are sufficient economic benefits to justify the investment but also that these benefits could not be recovered through user charges or other mechanisms that would allow PSP.<sup>67</sup>

ADB should continue to lend for basic infrastructure and for facilities in commercially non-viable ports, i.e., tertiary ports in areas which lack alternative transport access to the country's centers of economic activity. It would complement these investments with private sector operation and maintenance by bidding out the subsidies through management contracts. ADB would assist the country to identify those services that could be provided more efficiently by the private sector and to develop minimum acceptable levels of performance to be included in these tenders.

Other areas in which ADB should continue to lend would be development of new port infrastructure, improvements in land transport linkages, and improvements or extensions to existing breakwaters and channels. None of these investments generate the returns required by the private sector. However, other options for mobilizing long-term debt or equity in the domestic market should be explored before committing ADB's funds. In this regard, the efforts of the MDBs to develop long-term capital markets, especially bond markets, should gradually reduce the need for ADB financing of infrastructure investment. If these funds are available, ADB might

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<sup>66</sup> ADB's and the World Bank's difficulties in reaching closure on port reforms suggest that their influence will be greatest where they interact with the Ministry of Finance rather than individual ports.

<sup>67</sup> Alternatively, that levying charges would significantly reduce the economic benefits by limiting the level of traffic.

still provide financing through participation in loan syndications, or through loans for those investments which are not attractive to these markets. One such example has been the provision of equipment and facilities to meet the Marpol requirements. Another might be land reclamation prior to construction of quay walls and port superstructure.

The improvements of road access to the port is expected to require continued involvement of ADB because the volume of traffic is unlikely to justify a toll road. Rail access can often be provided by the port users or privatized railroad. Where this is not possible, ADB's involvement should be considered.

ADB can lend for retrenchment of excess port labor and for rehabilitation of physical facilities. Loans for retrenchment have been an important component in reforming overstuffed railroads and other public transport as a pre-cursor to privatization. There are similar opportunities in the port sector, but these should be limited to situations where:

- There will be no alternative employment opportunities generated within the logistic chain.
- Natural attrition and voluntary retirement schemes have not proved effective.
- The port cannot generate sufficient funds from its activities and privatization to pay for the retrenchment.

If these conditions are satisfied, then it is important to develop a scheme which is compatible with the requirements of the private party that will assume responsibility for the port operations. Good labor relations are perhaps the most important objective for the private sector.

Lending to the public sector for rehabilitation of port facilities prior to privatization is not always effective. It is usually possible to develop an arrangement whereby the private sector will finance this rehabilitation. This arrangement allows the private sector to develop facilities appropriate to their requirements and to minimize the cost of these improvements. Public investment in rehabilitation is justified only when:

- The time requirements make it necessary to rehabilitate prior to tendering.
- The port is seeking to avoid long-term agreements and wishes to develop facilities that are appropriate for alternative uses in the future.
- The cost of rehabilitation is sufficiently high as to discourage competitive bidding.
- The facilities being rehabilitated are for life-line services or other activities that are not commercially viable.

Of increasing importance will be ADB's role as a lender to the private sector for pioneer port concessions. This should be done in a way that avoids conflict of interest. It should refuse finance to the private sector where it has an active role in defining the terms of the agreement. It should also avoid offering a potential bidder financial support or appraisal services prior to submission of tenders in order not to favor any one of the bidders. This will limit opportunities since ADB could only make its services available after the bid is awarded and at the request of the winning bidder. However, ADB could agree with the port prior to tendering to provide a portion of the finance at the discretion of the winning bidder. Alternatively, ADB could provide

finance for the port in situations where it chooses to be part of a joint venture with the private sector.

#### **D. Conclusion**

The expanded role of the private sector in port operations and investment presents a significant challenge for ADB. The transfer of port services to the private sector has been accelerating over the last ten years and has now reached a point where ADB must alter its approach to the sector. The Asian crisis has provided two useful insights:

- The first is that the enthusiasm which was attached to the transfer of port services and facilities to the private sector was not always justified and occasionally led to situations of monopoly and over-investment. The vast majority of transactions have been successful in increasing the efficiency and the quality of port services, but it is unclear whether they have created an environment that will require continual improvement in services.
- The second insight is that ADB, World Bank, and other MDBs will still be required to act as the lender of last resort for development of basic port infrastructure and for the parts of the network which are not commercially viable. However, even this role is likely to diminish as long-term capital markets are developed in member countries.

In the future, ADB will provide relatively few sovereign loans for the port sector. This will reduce ADB's leverage with government officials involved in the sector. At the same time, there will be an increased need for high quality technical assistance to develop the types of transactions with the private sector that will promote efficiency and quality, while allowing for open access. The challenge for ADB is to provide private sector oriented technical assistance of a quality that the governments will be willing to pay for. While there will continue to be opportunities for linking sovereign loans with technical assistance grants, they are becoming scarcer. This review clearly indicates the need for continued involvement of ADB in advising governments and supporting development of the sector.