ADB

DEVELOPING BEST PRACTICES FOR PROMOTING PRIVATE SECTOR INVESTMENT IN INFRASTRUCTURE

PORTS

Asian Development Bank

The views, conclusions, and recommendations presented here are those of the study consultants, and should not be considered to represent the official views of the Asian Development Bank or its member governments.

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FOREWORD

This report is one of a series of five commissioned by the Asian Development Bank (ADB) to identify and recommend best practices to be followed and specific steps to be taken, by ADB's developing member countries in order to encourage both private sector investment and competition in infrastructure development. The study was financed through a $600,000 regional technical assistance grant - RETA 5753: *Developing Best Practices for Promoting Private Sector Investment in Infrastructure.* This report focuses on the port sector; the other reports cover the power, water supply, airport and air traffic control, and road sectors.

Transport is central to achieving prosperity and the quality of life to which most countries aspire. This report examines the various arrangements used throughout the world to transfer public port activities and assets to the private sector. The rising volume of these transactions over the last decade has shifted attention from port reform to terminal concessions and has hastened the transition from operating ports to landlord ports. The review of current practices resulted in a menu of better practices which are consistent with the objectives and environment of the public port. In addition, the study also examines the specific steps that ADB can take in facilitating both private sector investment and competition. It is hoped that the report will help ADB's developing member countries attract well managed and cost-effective private sector investment in the port sector.

The five reports have benefited from the support of and valuable contributions from many individuals, both inside and outside ADB. The reports were prepared by a team of individual consultants: Water Supply - Michael Porter of Tasman Asia Pacific; Power - Elliot Roseman of PricewaterhouseCoopers; Ports - John Arnold, an independent ports specialist; Airports and Air Traffic Control - Ian Jones of National Economic Research Associates; and Roads - Roger Allport of Halcrow Fox. In ADB, Sean O'Sullivan, Senior Public/Private Sector Specialist managed the technical assistance implementation with the help of Marcelo Minc, Project Economist. ADB staff in the Energy; Transport and Communications; and Water Supply, Urban Development and Housing Divisions as well as the Private Sector Group helped in guiding the direction of the study and in reviewing the outputs. In December 1998, a workshop, hosted by ADB as an integral component of the study, provided a forum for the exchange of ideas and experiences. Participation and contributions of delegates from many developing member countries and representatives from the private sector in the workshop were very much appreciated by ADB.

The publication of the five reports is especially timely as it coincides with the introduction of a new strategy for private sector development by ADB.

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ABBREVIATIONS

ADB	-	Asian Development Bank
BOOT	-	build-own-operate-transfer
BOT	-	build-operate-transfer
EDI	-	Electronic Document Interchange
EU	-	European Union
HIT	-	Hong Kong International Terminals
HPH	-	Hutchinson Port Holdings
ICTSI	-	International Container Terminal Services Inc.
IFC	-	International Finance Corporation
JNPT	-	Jawaharlal Nehru Port Trust
KCTA	-	Korean Container Terminal Authority
MDB	-	multilateral development bank
MPTA	-	Major Port Trusts Act
PAT	-	Port Authority of Thailand
PDB	-	Port Development Board
PRC	-	People's Republic of China
PSA	-	Singapore Port Authority (now Corporation)
PSP	-	private sector participation
SLPA	-	Sri Lanka Port Authority
SOE	-	state-owned enterprise
TA	-	technical assistance
TEU	-	twenty-foot equivalent units
UK	-	United Kingdom
US	-	United States

GLOSSARY

- Capital (asset) lease - The lease of existing facilities, equipment and infrastructure along with the right to provide services using these assets and to charge for these services. The lessee generally commits to maintaining these assets and returning them in reasonable condition at the end of the lease. The lease generally includes an operating agreement which stipulates the conditions under which the lessee must operate. The typical period for a capital lease is 5-15 years.

- Concession or wholesale concession — The combination of a capital lease along with the right to provide services using these assets and a commitment to make specific investments to improve the quality and capacity of these services. The typical period for a capital lease is 20-40 years.

- Debentures - Debt instruments issued by a corporation and secured by assets or revenues.

- Management contract - An agreement to provide personnel to manage an activity, service or facility in return for a fixed fee or cost-plus payment.

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EXECUTIVE SUMMARY

The private sector has always been actively involved in port affairs. The land and water transport services that use the port are almost entirely private sector. Nearly all of the cargo shipped through ports is privately owned. The private sector provides an array of complementary trade facilitation and logistics services for this cargo. Within the confines of the public port, cargo owners, forwarders and ship agents actively participate in decisions concerning the handling and storage of cargo. A significant portion of the national network is made up of private ports. These handle only a few types of cargo, provide services to a limited number of vessel operators, and are usually controlled by either the owner of the cargo or the operator of the shipping lines. The public sector's role is to own, develop, and manage basic port infrastructure and common-user facilities. The role of the private sector in public ports generally includes providing cargo-handling equipment and services and vessel services but varies with type of port (resource, service, or landlord port).

Private terminal concessions are commonly used to develop both liquid and dry bulk terminals in public ports. Over the last three decades, they have been used to develop container terminals in most of the countries of Asia. These terminals are concessioned by shipping lines such as Sealand, Maersk, Evergreen, and K Lines, and by international terminal operators such as Hong Kong International Terminals, P&O, Stevedoring Services of America, International Container Terminal Services Inc, and Singapore Port Authority, together with their local partners. Even in countries characterized by strong centralized governments, the pace of concessioning is accelerating.[1]

The process of port privatization has rarely involved pure privatization, since land and infrastructure are rarely sold. Instead, the process involves private sector participation in operations and investment in equipment and facilities. The process is not a monolithic effort because of the diversity and complexity of ports and the services they provide. It can be divided into three components (i) institutional reform, (ii) divestiture of existing services and assets, and (iii) investment in new facilities and services. These can be implemented individually or in combination. For each component, there are many possible public-private partnerships.

Institutional reform is intended to improve but not necessarily change the management of public ports. The principal objectives are to increase efficiency and improve the quality of services by making management more responsive to the needs of port users. This reform encompasses five activities. The first is decentralization of the national port system by granting financial and operational autonomy to individual ports, thereby limiting the influence of central government. The next two are separation of regulatory and management functions and commercialization of the latter. The regulatory function covers not only health, safety, and environmental protection, but also competition and pricing. Commercialization begins with the introduction of commercial accounting systems and financial objectives, e.g., self-sufficiency and profitability, and extends to client-oriented management behavior. The fourth activity is improved access to long-term capital such as commercial loans, debentures and project finance. The fifth is the conversion of the corporation to a share company with an option for public ownership of the shares.

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[1] For example, recent terminal concessions in Dammam, Jeddah, and other Saudi ports are rapidly replacing labor contracts and overstaffed administration.

Divestiture of existing services and assets to the private sector on a temporary or permanent basis requires a change of management. It can be accomplished through contractual arrangements including service contracts, capital leases, franchises, service contracts, and concessions or through the sale of assets and open competition for specific port services.[2] The term “privatization”, when properly defined, refers to the outright sale of assets and open competition. In practice, it has come to refer to all these options.

Investment in new facilities and services occurs as a follow-on to divestiture when the private sector rehabilitates and expands existing assets. It also occurs through the establishment of private ports or through concessions for new facilities within public ports. In both cases, the private sector is given effective control over all assets, including land and foreshore, either in perpetuity or for a lengthy period.

The best institutional structure for promoting private sector involvement in public port operations and investment is the landlord port. This structure provides a broad framework in which the private sector can replace the public sector in the provision of services to the vessel and its cargo. It allows the public sector to retain ownership of the land and infrastructure and to continue regulating their use, while sharing responsibility for capital investment. This framework has been used throughout Western Europe and the United States for much of this century. In the last decade, it has become increasingly popular in Asia and South America. Its popularity is based on the effectiveness of this framework for increasing operational efficiency, providing flexibility in the structure of the tripartite relationship between government, labor, and private management and promoting client-oriented management. It allows a port to improve the quality of its service through a process of evolution, which can accommodate the changes in trade, shipping and regional political structures.

The introduction of the landlord structure requires a consensus between government, labor, and private management on the procedures for transferring control of services and assets to the private sector. This is followed by a gradual expansion of the private sector’s role in operations and investment, the evolution of the contractual relationship between the parties and the development of a common set of goals for the port and its users. The process should not emphasize the shift from one institutional structure to another, but rather the continuing reallocation of responsibilities so as to improve the quality of port services. In order to be effective, this process requires specific objectives. The experience of the last decade has confirmed the need for commercialization of management, timely and efficient investment, efficient allocation of risk between the public and private sector, and active competition among service providers. To these objectives, there is a need to promote the integration of the port into the logistics chain connecting producers and consumers.

A strong client-orientation is needed both for improving existing services and facilities and for introducing new services and facilities. For the former, the management must trade-off the quality and price of port services. For the latter, the management must determine the potential demand and the price required to justify the related investments. Timely investment requires the ability to determine if existing assets are being used efficiently as well as the capacity to procure new assets without being encumbered by lengthy procurement procedures. Effective risk allocation requires that risks be assigned according to which party has the greater capacity to mitigate the risk. Since the objective of this process is to introduce commercial

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[2] The definition of these arrangements is presented in the Glossary at the beginning of the report.

behavior, the commercial risk would be transferred entirely to the private sector. The public sector would retain the regulatory risk since it is directly involved in the design and enforcement of these regulations.

Competition can be in the form of direct competition between service providers or indirect competition among providers of complementary network services Where competition is not possible, a contestable situation can be created through the terms and conditions of the contract between the public port and the private sector, or by allowing the shipping lines and cargo owners to provide services where existing providers do not meet their needs. The role of the public and private sector in port investment will vary from port to port, but the public sector generally retains responsibility for basic port infrastructure and the private sector for mobile equipment and operations-related structures.

The port industry has undergone rapid technical and organizational change since the start of containerization nearly a half century ago. During this period the sustained growth of oceanborne commerce and the development of international shipping have been served through a combination of improvements in technology, tighter integration of network functions and productivity gains for general cargo operations, which have averaged four percent per year for facilities and eight percent for labor. In this environment, it is not possible to identify best practices except as a snapshot on time. It is anticipated that the practices mentioned in this report would be modified and replaced over the next 10-15 years as the requirements of international trade and the accepted role of government change.

The value of the landlord port model is closely associated with the need for government to maintain control of its foreshore, especially areas suitable for port development. Public ownership of the port land is likely to continue as long as the sites for port development are scarce. In the future, this scarcity will diminish as:

- The location increases in importance relative to the physical suitability of the site.
- Financial resources for dredging, breakwaters etc., become more readily available for well-located but unsuitable sites.
- The technology of cargo-handling improves, e.g., the development of the Single Point Moorings for oil transfer.
- More sophisticated and complex logistics chains generate a larger number of solutions to transport needs.
- The public interest dimension shifts from local to national to international.

With these changes, the limitations of public sector landlord ports will become more apparent. These limitations as observed in the port networks of the United States and North Europe, include:

- The continued use of public subsidies (albeit in more subtle ways).
- Public investment based on local/national pride rather than commercial objectives, which leads to over-capacity.
- Public political concerns overriding commercial judgment.

Within the next two decades, the role of common-user public ports is expected to diminish and be replaced by private terminals, thus marking a return to the structure of earlier centuries. For now, however, the improvement in port efficiency and move towards commercial management will be accomplished through public landlord ports with private sector operations and shared investments.

The Asian Development Bank and other multilateral development banks can provide an important impetus to the shift from public operating ports to landlord ports. They can arrange for technical and financial assistance for assessing the legal, political, and financial constraints to divestiture of responsibilities and assets. They can also provide this assistance to support the process of negotiation between the government, labor, port users, and private management. This would include the development of an agreement with labor on the process of divestiture and with the private sector on a contractual relationship that will provide efficiency gains and increased competition while allowing reasonable returns on investment (both capital and management). The Asian Development Bank can provide financial support for the labor reform and for the public investment required to promote competition. It can also assist in designing an appropriate tendering system and the formulation of the contract terms followed by the negotiation of a sustainable relationship between the public and private sector.

These institutions can also provide assistance with related reforms. One is the development of the long-term domestic capital markets, which are needed to provide a reliable source of funding for the development of port infrastructure. Another is the integration of the transport network to provide seamless intermodal transport. They can also provide assistance to the public port organizations and the ministries of transport for developing national transport network plans and port masterplans.

PART ONE

STUDY OVERVIEW

I. INTRODUCTION

An Asian Development Bank (ADB) regional technical assistance was approved with the aim of developing sector specific best practices for promoting private sector participation (PSP) in key infrastructure sectors in ADB's developing member countries (DMCs). The sectors studied included power, water supply, roads, ports and airports and the best practices covered: (i) sector policy issues relating to pricing and competition; (ii) conducive legal and regulatory frameworks; (iii) the unbundling, mitigating, and management of risks; and (iv) mechanisms to reduce transaction costs. Five individual experts were engaged to undertake the study, one for each sector. A two-day regional workshop was held at ADB on 9-10 December 1998 for the experts to present their findings and validate them with an invited group of experienced senior government and private sector individuals, together with ADB staff. These volumes represent the final outputs of the study.

A summary of the expressed views in these volumes in relation to preferred forms of PSP in infrastructure, informed by the currency crisis, is that it is "best practice" to have a customer focus and a well structured regulatory environment around infrastructure projects, in part since this can allow domestic financing. In other words, it is financially and economically sensible to utilize the essential and often monopoly status of efficient infrastructure services in creating, in effect, a *customer finance* model of PSP. Under this customer-focused concession or franchise model, government provides the regulatory and legal framework that can satisfy customer and investor alike, with the securitization of customer accounts (say via an escrow account) or insurance techniques underpinning financing arrangements. Investors will always seek to mitigate uncertainties, but many of the privatization models to date have done so by way of government guarantees which have undermined the process in the longer run.

Regulation by entities appointed by the government is still required in the new model, given that monopoly provision of key network assets is often the only efficient option. For example there is a need to regulate access charges for connection to network assets such as pipelines, high voltage wires and port channels. But where competition can be achieved in the product market, as with electricity generation selling into a power pool, then this competition is generally the best mechanism to achieve good outcomes for customers Realistically, in much of Asia, there is little experience with these new pro-competitive models of regulation and thus there is an expectation, on the part of the experts, of a substantial phase-in to this regulatory element of best practice in the future.

The challenge as we enter 2000 with its information-rich possibilities, is to learn from the 1990s infrastructure experience on investor-to-government build-operate-transfer (BOT) deals and concession transactions so that DMCs can benefit from the adoption of best practices in the various infrastructure sectors.

The following presents an overview of the study, including a discussion on the growth of private sector infrastructure investment in Asia, a review of the cross-sectoral issues, a summary of the sectoral best practices for each sector and suggestions on the role of ADB in supporting private sector investment in infrastructure. Part 2 comprises the specific sectoral report.

II. THE GROWTH OF PRIVATE SECTOR PARTICIPATION

A. Expansion and Contraction of Private Sector Investment

The last decade, and notably the period to 1996, saw both the rapid expansion of private investment in public infrastructure and a sharp increase in private management of the services associated with this infrastructure. The investment was fuelled by the development of new forms of PSP including varying forms of public/private partnerships: BOT, build-own-operate, build-own-operate-transfer (BOOT), and concessions.

New financial instruments, especially project finance, and the globalization of private investment funds, played a major role in the expansion of the infrastructure sectors in most countries. PSP in infrastructure, and in particular power generation, was supported enthusiastically by the multilateral development banks and bilateral development agencies, as well as by the international financial community. But fewer transactions were completed in the more complex and customer-focused areas such as water, electricity distribution and transport infrastructure. Early successes involved financial transactions without major organizational restructuring; later transactions focused on major infrastructure in mega-cities such as Manila, Jakarta and Shanghai. For example, water treatment plants, bulk water supply, individual power generation units, container terminals, passenger terminals, and airport toll roads.

In the first half of the 1 990s, investment requirements for infrastructure in Asia were seen to be on a scale that dwarfed earlier projections and experience. Asian tiger economies were growing rapidly, and demanding massive investments in power, roads, telecommunications and other infrastructure. In most Asian economies, there was also a sense that development was being hindered by bottlenecks in power (e.g., the Philippines), transport (e.g., Thailand), water (most of Asia) and telecommunications. Since government infrastructure spending, international aid, and official sector lending could not be on a scale sufficient to meet requirements, the private sector was the focus of attention.

The new infrastructure investment requirements were estimated by ADB to be of the order of US$1,000 billion for the 1 990s for East Asia. Subsequently, they were estimated by the World Bank to be of the order of US$1,500 billion for the decade 1995 to 2004. Such projections were useful as a means of highlighting the scale and structure of the huge infrastructure requirements of a growing and increasingly prosperous and urbanized Asia. They helped make clear the need for a major shift of focus towards PSP in infrastructure, to some extent motivated by efficiency considerations, but mainly reflecting the view that public sector financing for this scale of infrastructure requirements was neither feasible nor desirable.

There had also been a shift in views as to the comparative advantages of governments and the private sector in performing the various roles related to the provision of quality infrastructure services. Increasingly, an expanded regulatory and restructuring role was seen for governments, with investment, construction, financing, and management viewed as best opened to competitive PSP. Risks should, under this approach, be assigned to the parties best able to mitigate them, and this meant a greatly expanded role for the private sector.

There was recognition that while many private sector investments of the BOT type were being completed, the assignment of risks in many of these projects left much to be desired. Government guarantees of bulk take-or-pay contracts (between utilities and investors), often

indexed to exchange rates, had created huge contingent financial obligations of the utilities and their governments.

As with many investment trends, optimism, a proliferation of Memoranda of Understanding and glossy investment announcements gradually replaced careful evaluation. Some early successes, under special circumstances, led to the assumption that this BOT approach could be universally applied. The expression BOT had become a shorthand for PSP in many countries by the mid 1990s; but by 1999 BOTs and often the associated power purchasing agreements had also become a shorthand for unacceptable government risk exposure, and of project isolation from customer and market pressures.

This optimism ended with the Asian financial crisis; itself brought on by a lack of sound investment policies, in particular, in relation to government guaranteed power purchasing agreements. The power purchasing agreements had inadvertently converted a shortage of power supply into an oversupply, secured by take-or-pay guarantees. The result of the crisis has been a sharp contraction in private sector investment and a significant exposure of government and private sector investors to contingent liabilities. This contraction not only limits the capacity of governments to stimulate economic growth but also has led to the deterioration or stagnation of many partially completed and privately financed public infrastructure projects. The rise and fall of private sector finance is clearly shown in the private finance data presented in Box 1.

The currency crisis has caused some dramatic revisions both to economic growth forecasts and to infrastructure investment programs. However, as the analysis in Box 1 shows that while forecasts for infrastructure are lower due to lower growth and the expected move to best practice, the magnitude of investment is still huge and efficient PSP will be required.

B. The Challenge for Private Sector Infrastructure Investment

As this difficult period unwinds, it is important to reconsider the comparative advantages of the public and private sectors and the critical role of improved regulation and governance including transparency, enforcement of contracts, and the adoption of viable commercial tariff structures. There is a need to review, sector by sector, the strengths and weaknesses of the process that has been used to implement these investments. The opportunities and risks of new approaches need to be addressed - e.g., the case for expanding the emphasis on customer focused and privately managed concessions. There is a need to develop bankable versions of these models, ideally backed by the security of customer accounts rather than government guarantees or public sector assurances. This series of volumes addresses these and other sectoral best practice concerns.

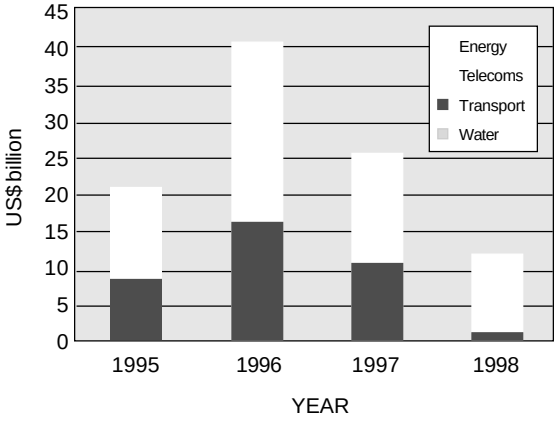
There are major challenges for governments and investors alike, emerging from this shift to a new model for infrastructure development. The new best practice model does not mean a total retreat by governments; on the contrary, moving to best or better practice involves a shift to good governance, and requires an upgrade of regulatory, restructuring, and monitoring roles. Without greatly improved governance, the shift to increased PSP could just mean monopoly powers being shifted to the well connected in the private sector. Moreover, without improved governance, PSP would eventually flounder and the demands for infrastructure will not be met, as risks would become unacceptable.

Box 1: Past Project Finance and Future Infrastructure Demand — East Asia

Project Finance — Opportunity and Volatility

Figure 1 draws on a Euromoney (CapitalDATA) database and highlights the dramatic growth, and subsequent decline of infrastructure funded through project finance in selected East Asian countries. The pre-crisis level of nearly US$41 billion for 1996, contrasts sharply with the estimated level at the end of the 1980s, when the total market for funding projects was less than US$5 billion per annum, as well as with the crisis figure of US$12 billion for 1998. Clearly, in the 1990s and well prior to the crisis, the importance of the private sector in infrastructure development was rapidly increasing. As a result of the crisis, the telecommunications sector has shown the most dramatic decline, reflecting the fact that such projects are typically purely privately funded, and bear demand risk in a newly open environment. The energy projects, on the other hand, appear more resilient, but mainly because they have had some form of government support, in the form of guarantees in relation to bulk sales through PPAs.

Figure 1:
Project Finance

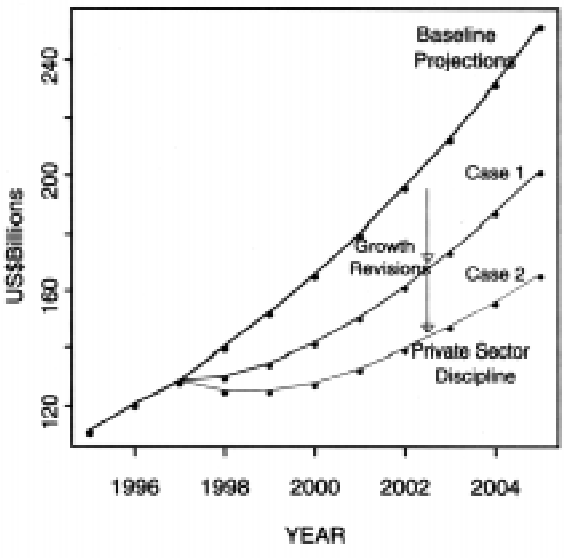


Future Demand for Infrastructure Investment

New infrastructure projections for selected East Asian countries: the People's Republic of China (PRC); Indonesia; Republic of Korea; Malaysia; Philippines; and Thailand for the period 1996-2005, adjusted to allow for both the phase-in of private sector market discipline/best practices and reduced economic growth. The revised projections are 23 percent below the pre-crisis (baseline) projections. They are based on establishing the value of the capital stock of infrastructure in each country and projecting infrastructure investments with varying gross domestic product (GDP) growth assumptions and varying infrastructure-to-output ratios. A summary is given in Figure 2. The pre-crisis projections are based on the 1996 GDP growth forecasts. Case 1 is based on the current GDP growth forecasts while Case 2 adds the impact of a transition to a lower infrastructure-to-output ratio and assumes a gradual 25 percent increase in efficiency in each sector in each country. An important factor to note in the projections for this region is that the PRC is assumed to maintain its relatively high GDP growth rate, which accounts for about two thirds of the infrastructure spending in the region. The results for Case 1 indicate a fall of 14 percent from the pre-crisis projections. If the PRC is excluded, the reduction is 33 percent. Case 2, which assumes a transition to best practices, with a resulting change in the underlying infrastructure-to-output and efficiency parameters, indicates further reductions in the level of needed investments. The analysis clearly shows the relative impact of lower growth and the potential benefits of moving to best practice models of infrastructure development. It also highlights the magnitude of investment requirements, in excess of $120 billion per year, and the need for PSP.

Figure 2:
1996-2005 Infrastructure Investment Projections

Scenario	US$ trillion	%
Baseline	1.78	100
Case 1	1.53	86
Case 2	1.37	77



Source: *"Private Sector Participation and Infrastructure Investment in Asia",* Asian Development Bank paper prepared for the Finance Ministers Meeting, Asia Pacific Economic Cooperation, May, 1999; prepared by M.G Porter and C. McKinlay (Macquarie Bank and Tasman Asia Pacific).

III. CROSS-SECTORAL ISSUES FOR PRIVATE SECTOR PARTICIPATION

There are a number of cross-sectoral issues relating to promoting private sector investment in infrastructure that were identified during the study. The review of best practices in each of the five sectors highlighted the importance of competition, transparent tendering, and effective regulation. There was broad agreement that:

- Government should specialize in planning, structuring, and regulation while the private sector should specialize in management, investment, construction, and financing;

- The transfer of responsibility to the private sector should be accomplished through deregulation and open competition or well-established contractual arrangements including management contracts, capital leases, concessions, sale of assets and rights to operate;

- Economic regulation should be applied where there is insufficient competition but it should be transparent and predictable while still accommodating the concerns of the affected parties;

- Long-term domestic financing sources must be developed; and

- Commercial risks should be assigned to the private sector but other risks should be assigned according to which party is able to mitigate the risks.

The cross-sectoral issues are discussed in more detail below.

A. The Need for Reform and Role of Government

PSP in infrastructure development still requires the government to play a key role in planning, policy, and regulation. The reason that infrastructure industries have remained so long in the public sector is that they have components that are natural monopolies; e.g., the costs are lower with only one provider and the services are often essential (water, power and transport). These infrastructure monopolies also typically have a relatively high proportion of capital costs, have long-lived assets with low unit variable costs, and exhibit significant economies of scale. It had been a common judgement that state ownership of such monopolies, rather than state regulation of privately owned assets, was likely to deliver the best outcomes.

Existing service providers in these infrastructure areas have also had a considerable competitive advantage over potential new entrants, because of the relatively long time required to construct expensive new networks and to build up the market for their services. The scarcity of land, rights-of-way and airspace suitable for development of the network also act as an additional barrier to competition. Sites for airports and seaports, dams, power plants, and rights-of-way for roads, rail lines and transmission systems had become increasingly difficult to acquire. Another common argument for retaining these industries within the public sector was that they must provide common (or universal) access to their services and that subsidies are required.

It turns out that public ownership and management is neither necessary, nor the best way to ensure universal access. Subsidies can easily be a requirement of a competitive tender or can be directly financed by government. A key advantage of having the private sector provide public services is that it allows public administrators to concentrate on planning, policy and regulation. The private sector, in turn, is empowered to do what it does best (i) invest capital; (ii) manage the businesses; (iii) manage and create appropriate incentives for staff and management; (iv) deal with customers; and (v) improve the efficiency and quality of service; more recently, under the spur of benchmark competition - competition by comparison.

Governments should allow the private sector to provide infrastructure services to the maximum extent possible, with governments concentrating on planning, policy and regulation, and with the private sector on efficiently investing capital and improving the efficiency and quality of such services.

B. Institutional Reform

The organization of the infrastructure sectors (i.e., ministries, regulatory agencies, and utilities) has remained largely unchanged with the introduction of PSP. With financial transactions being the primary mechanism for transferring infrastructure services to the private sector, insufficient attention has been given to the broader issue of institutional reforms. It has been implicitly assumed that the introduction of private management into the ownership or operation of specific assets would obviate the need for such reforms. Instead, the weaknesses of existing institutional structures have limited the effectiveness of the private sector initiatives. In most countries, the piecemeal transfer of infrastructure components has proceeded slowly and the controlling bureaucracies that add overhead costs and often limit improvements in infrastructure performance, have remained relatively unaffected. The currency crisis has emphasized the importance of institutional reforms but government bureaucracies rarely reform themselves. Governments should carefully review the structure, size and responsibilities of state-owned utilities and other entities in the infrastructure sectors and establish special reform units reporting directly to top level ministers to spearhead the necessary reforms.

C. Strategic Planning

Governments' acceptance of private sector investment in infrastructure has been due, in part, to their failure to anticipate future bottlenecks and make timely strategic investments to prevent shortages in capacity. The increased role of the private sector in developing infrastructure has caused many governments to neglect their responsibility for sector planning. Instead, governments have offered assets and public services to the private sector in an ad *hoc* manner, often failing to ensure that individual investments were complementary. In certain circumstances, unsolicited proposals have been used as a surrogate for planning For its part, the private sector has selected projects that had already been identified in government plans, giving preference to those which offered the highest rate of return, the lowest risk or the greatest short-term benefit. The private sector has had neither the interest nor the capacity to consider the network implications of its proposals. Governments have failed to subject these proposals to rigorous financial analysis to determine their sustainability in the absence of major increases in user charges or government guarantees. Governments have also often overlooked the Complementary investment required from the public sector to make the private investments successful. The results have been unsolicited proposals that involved little commercial risk (government guarantees, wrap-around provisions, transfer of existing assets, granting select rights of way) or politically generated proposals. Governments should maintain and strengthen

their role in strategic planning of the infrastructure sectors and in the process identify where PSP should be encouraged and the level of complementary support that should be provided.

D. Legal and Regulatory Framework

The effectiveness of PSP has suffered from the lack of adequate regulatory structures to control both technical and economic performance. Regulation of tariffs and other economic factors is particularly undeveloped. The basic objectives of autonomy, accountability, transparency and predictability have been difficult to achieve. More importantly, the mechanism for consultation between the public and private sector and for dispute resolution between the providers and users of the network has not been fully developed. A further problem has been the failure to separate regulation from administration in order to avoid conflicts of interest. Most countries have been slow to establish autonomous regulatory agencies with independent funding and professional staff.

Unbundling the network into competitive and monopolistic components can significantly reduce the need for regulation. The competitive components can be transferred to the private sector in a way that promotes competition and allows deregulation. The monopolistic components can then be transferred to the private sector once an effective regulatory framework has been established. This regulation should create a situation where the businesses derive their profits from increased efficiency and the attraction of additional demand.

Effective economic regulation covers also deterrence of anti-competitive practices. Most of the developing countries lack laws or agencies for dealing with anti-competitive practices. Economic activity continues to be concentrated in large conglomerates. The currency crisis has provided new impetus for breaking up the monopolies and introducing anti-monopoly laws.

The lack of established legal and regulatory procedures applies to contract law as well. The means for enforcement of contracts and the resolution of disputes are not well established. Political interference in the award of contracts has also been a problem.

PSP without a well-developed legal and regulatory framework increases the level of risk to investors. It also encourages investors to rely on special situations and political relationships rather than their merits as a means for securing and implementing contracts. The transfer of infrastructure services to the private sector should not lead to privileged deals or profits secured by government guarantees. They should be businesses with regulated income streams which derive their profits from increased efficiency and the attraction of additional demand. These income streams should be capable of securing substantial private sector funding, both because their semi-regulated nature makes them much like a government bond, and because the essential and often monopoly nature of the service lowers demand risk Such assets are also long-lived and thus attractive to pension and similar long-term funds.

E. Unbundling and Introducing Competition

Experience in a number of countries has shown that unbundled infrastructure sectors with individual components managed separately can perform better than centrally-controlled networks. The additional costs of unbundled networks due to increased communications and transactions among components have been reduced by improvements in technology. At the same time, the unbundled management has been able to better focus on the capacity and productivity of the individual Components and their interface with other Components.

The unbundling of the infrastructure sectors is an important technique for reducing their natural monopoly and promoting competition. Many parts of the network can support competition. Where it is not possible to create direct competition between suppliers of network services, it is often possible to create competition among providers of complementary network services. For example, in the power sector, many countries are separating the networks into generation, transmission, distribution, and in some cases, a fourth segment responsible for retailing power to customers, with different companies responsible for each segment.

Where competition cannot be created, it is often possible to establish contestable environments e.g., a market for the business. One method is through effective competitive bidding for the sale or lease of assets and licensing or franchising of services. Another is to reduce the period of the contractual agreements or to provide for a periodic review of performance. A third is to introduce performance targets related to the quality of the service, the range of services, the prices charged for the services and overall market share. The ability of the private sector to achieve these targets is then linked to penalties, or provisions that may lead to early termination of the agreement. A fourth method is to require comparable performance vis-a-vis other networks. This may be in the form of requirements for increasing market share relative to other providers of similar services, or requiring a quality of service and price that is comparable to other networks serving similar markets.

Most infrastructure sectors are composed of profitable and unprofitable components. One practical, but not ideal, strategy for transferring the components to the private sector is to bundle profitable and unprofitable components to produce a combination that has an acceptable level of profitability. Another is to tender the profitable components through techniques ranging from operating agreements and franchising to sales of assets and to transfer the unprofitable components using management contracts; in effect, bidding out the government support for that component. A third strategy has been to transfer the profitable components to the private sector and to retain the unprofitable components in the public sector, but under control of local government units rather than the national government.

F. Sources of Financing

Private sector funding of infrastructure usually brings the risk of foreign currency mismatches in the financing package; income is in local currency, but the need to resort to foreign debt and equity markets means that debt service requires substantial foreign currency. The root problem is inadequate depth in capital markets in most DMCs which prevents a tailoring of local currency debt to long-lived assets. The need to resort to foreign debt (and equity) creates substantial risks, which have been exposed in the recent crisis. Few infrastructure consortia can withstand an exchange rate depreciation of 40 to 50 percent, let alone the 80 percent decline experienced in Indonesia when their product is sold for local currency. Hence the priority on programs to deepen the domestic capital market.

In principle, currency matching requires that the bulk of debt funding of infrastructure services such as transport, water supply, electricity and other urban services should be in local currency. In the absence of the necessary capital market reforms, it is hard to see how private sector provision of infrastructure can proceed on the scale required to meet future demand. A priority, therefore, given the recent experiences, is that international development agencies such as ADB expand their role both in facilitating political risk insurance and in fostering the development of domestic capital markets in Asia, particularly bond markets.

Direct foreign investment will remain an important source of funds for the development of the infrastructure sectors. However, it will take time to restore investor confidence and, given the experience of Indonesia, Pakistan, Philippines, Republic of Korea and others, governments will naturally seek to limit their exposure to these funds in preference to local sources of capital, if possible. The development of domestic long-term capital markets will be critical for private sector investment in infrastructure, but these markets must have much better regulation as well.

G. Risk and Risk Mitigation

In order to reach financial closure, governments have often accepted commercial risks that should have been assigned to the private sector. This includes not only the foreign exchange risk but also demand/traffic (volume) risk. The most obvious example has been the take-or-pay provisions in power purchase agreements. These guarantees have had three negative impacts. First, they have isolated the private sponsors from the influences of the market. Second, they have created a large amount of contingent liabilities for governments that now add to their fiscal problems. Third, they have encouraged price rigidity leading to distortions in the market and reducing the potential of the private sector to improve efficiencies in investment and operations. Other examples are build-lease-transfer agreements and volume guarantees for toll roads, airports and seaports.

Because governments have had limited contract-related knowledge or experience, the private parties have been frequently able to convince them to assume some of the commercial risks. Also, because governments have often not been able to engage suitable legal, technical and financial experts to assist during negotiations, they have been at a disadvantage in arguing with foreign proponents concerning international practices such as take-or-pay contracts, or with international lenders concerning guarantees to protect their loans. Bureaucrats who have gone through a long, often contentious bidding process have been willing to accept some commercial risks during negotiations rather than to face rebidding. Alternatively, private parties frustrated with drawn out negotiations and the continuing renegotiating of clauses have accepted risks that should have been borne by the government.

Governments should build up capacity to negotiate and deal with the private sector. Commercial risks should be assigned to the private sector and other risks should be assigned to the party best able to mitigate them.

IV. SUMMARY OF SECTORAL BEST PRACTICES

The challenge for governments is to encourage an appropriate form of private sector investment in infrastructure. The study has identified significant differences among the infrastructure sectors concerning the appropriate balance between private and public participation in ownership of assets and provision of services. Only some of the sectors have welt defined models for PSP. Other best practices are still evolving and the menu will continue to develop as experience grows. The decisions on which infrastructure components should be transferred to the private sector are of a strategic nature. They depend not only on the characteristics of the sector and the market it serves but also on government objectives. There was consensus among the experts that the primary objective should be to benefit consumers. However there were a number of additional objectives which governments should consider: (i) reduction in national debt; (ii) stimulation of domestic capital markets; (iii) reduction in capital and operating subsidies; (iv) investment in new infrastructure or rehabilitation of existing

infrastructure; (v) improvements in the quality of service; (vi) increased range of services; (vii) reduced prices for services; (viii) client-oriented operations; and (ix) more effective marketing.

Governments have at their disposal a number of means for effecting the transfer of infrastructure components to the private sector. The pace and sequence of such a transfer depends on the: (i) size and complexity of the infrastructure sector; (ii) rate of growth in demand and the competitiveness of the market; (iii) options for unbundling by function or geography; (iv) legal regime regarding ownership of land and other critical assets; and (v) capacity for economic regulation. The established mechanisms, which range from management contracts to unregulated competition, are not new and have proven effective. The key is to have a vision of where the sector is going, and to carry through the reforms as quickly as possible so as not to allow the interim change to become the final state of affairs. The findings of the sectoral experts for each sector are summarized below.

A. Power

In the electricity sector, IPPs provided a quick solution (in the Philippines, for example) by offering generation capacity needed for rapid economic growth. However, the costs were often high because the new capacity was not consistent with the least-cost expansion path and the private sector required high rates of return. However, these costs have been decreasing as the IPP market has matured. The focus on production rather than efficient distribution put the public sector in the position of retaining that activity in which it was least effective and restricting the private sector from performing the customer focused activities (distribution and supply) where it had real expertise. At the same time, it isolated the private sector from the market through a combination of regulated pricing and guarantees against commercial risks.

The power sector expert advocates restructuring to achieve a competitive market model with wholesale and retail competition. Such reform will encourage sustainable PSP and maximize the benefits to consumers. The expert suggests five major steps in implementing this approach, and their order of precedence. To some extent, these steps may proceed in parallel, but they should be considered sequential actions that will lead to the implementation of a competitive power market:

1. Getting the investment framework right.
2. Deciding on the goals of restructuring and the ideal industry structure.
3. Preparing the players to participate in a competitive market.
4. Privatizing existing and new assets.
5. Ensuring that the competitive market is implemented properly.

Best practices for power sector restructuring would include the following:

- Create an enabling legal and regulatory environment to support competitive markets in electricity.

- Unbundle the power sector into separate generation, transmission, distribution, and possibly retailing sectors to achieve the maximum benefits for customers.

- Privatization should include the sale of power distribution utilities as well as generation, and should include existing assets as well as new projects, using a transparent process.

- Open access to transmission and distribution wires, and the ability to trade power between buyers and sellers in an open market, are critical to achieve a competitive framework.

- Operate the generation and retailing markets competitively, with a large number of generators selling into a wholesale electricity market at prices which balance demand and supply throughout the day.

- Operate the transmission network as a concession on the basis of competitive bidding, or privatize it within a tight regulatory framework, controlling rates of return, prices or gross revenue.

- The independent regulator should mainly oversee prices and incentives for transmission and distribution operations.

- Restructuring should proceed at a pace consistent with the development of a competitive and unbundled system.

B. Water

The water sector has moved more slowly towards private sector investment, relative to electricity and telecommunications for example, not least because of the jurisdictional, environmental and sensitive social concerns about water supply, and its affordability. While major private sector involvement has now been achieved in distribution (Manila and Jakarta), the bulk of transactions were BOT models with take-or-pay clauses guaranteed by governments. Adding to these difficulties was the lack of knowledge about the location and condition of the (underground) networks and aquifers in many countries.

The volume on the water supply sector addresses the question of why, given the alternatives, the private sector should seek to invest in a sector with so many uncertainties, natural, governmental and financial. Water, unevenly supplied as rainfall, is often wrongly deemed a free public good, despite the costs of treatment and retail supply. Thus, there is often an ill-informed community constraint against private sector involvement in water supply, which in most countries has prevented the sorts of best practice referred to in this report.

The water expert makes the point that when it comes to best practice in the case of water supply. Most of the messages are for government - to install sound and independent

regulatory regimes, catchment management policies and enforceable laws on tariff setting and collections. Once in place, best practices such as water supply concessions can be implemented. If not in place, then best feasible practice may simply relate to contracting out some services under government guarantee, or BOOT bulk supply to public sector water supply companies. It follows from this that since the particular features of the water supply situation and regulatory and privatization policies differ greatly across countries, so, too, will the feasible best practice.

One misunderstanding regarding the scope for bringing commercial practices to water supply is the issue of affordability. The report notes that the poor often pay more for water than the cost from efficient commercial piped supplies. Experience has shown that low-income families will pay for quality water supply - and are not averse to PSP - if it delivers.

The key points recommended were:

- The benefits of PSP in the water sector must be explained to win public acceptance.

- The starting point in any reform process for water supply is to form a high-level reform unit to drive and manage the process. It would be responsible for coordinating and facilitating the entire reform and PSP process. The reform unit may be a crosssectoral unit.

- While not essential to commence reform, the introduction of tradable water rights leads to efficient use of water, particularly when it is scarce and has alternative uses.

- The water sector should be unbundled to the extent possible. The private sector concession model is most likely to achieve the greatest benefits to the community and the economy as a whole. The government continues to own the network while the private operators lease the long-term right to use the assets and collect revenue from service delivery. The benefits accrue due to strong financial incentives to reduce water losses and expand service.

- If politically difficult, then the next best strategy is to use BOT, BOOT, and rehabilitate-operate-transfer arrangements to bring expertise and finance to urgently required water supply projects. The bidding procedure should be carefully managed to ensure reasonable cost and the contractual arrangements should not constrain subsequent progression to more competitive models.

- Commercialization/corporatization of water supply utilities together with tariff reform is advantageous as an interim step if the introduction of PSP is to be phased.

- Tariff reform to achieve full cost recovery is essential for PSP. Cross-subsidies for the poor can still be considered in a transparent manner.

- Critical to the success of PSP in the water supply sector is for the government to create sound and independent regulatory regimes, catchment management policies, and enforceable laws on tariff setting and collection.

- Risks are likely to vary between countries and even between different water utilities in a country. They should be managed by the party best able to minimize and manage each risk most effectively. Where no party has a clear comparative advantage to manage the risk, it should be shared.

C. Roads

In Asia's roads sector, PSP has been equated with major BOT toll roads. These have been targeted where traffic is greatest - in and near the capital city and sometimes along major inter-city corridors. This private investment has produced some successes but also many failures. After more than a decade of concerted effort, implementation experience has not matched expectations. Indeed, surprisingly little has been implemented outside the PRC.

The road sector expert has advanced three reasons for modest progress in roads. First, governments have not defined their policy, often leaving the private sector to identify projects. Secondly, almost everyone involved has expected such toll roads to be profitable without government support, but this has only rarely proved to be the case (outside the dense PRC market, which is deemed a 'special case'). Thirdly, it has proved difficult to introduce promised tariffs and tariff increases in a sector where roads have become to be regarded as free.

What is clear is that private construction and maintenance of public roads produced better results where there was adequate competition and effective methods for enforcing contracts. Efforts to substitute private sector management for public sector officials in the management of the public network are in their early stages, even in the developed economies, but the preliminary results are encouraging.

Worldwide experience identifies a broad range of PSP modalities, in which BOT is close to being the most difficult to implement. Other modalities include maintenance management contracts, turnkey, operate, and maintain or rehabilitate-operate-transfer concessions. Many of these modalities target improved maintenance, and rehabilitation of the network (rather than solely network capacity expansion). They have potentially much greater application than BOT projects. Looking ahead, the requirements are to both improve the BOT process, and to extend the modalities that are applied. The key points to emerge are:

- Governments must prepare the PSP environment. Institutions may need to be restructured with the objectives of controlling the PSP process in the public interest, and creating a regulatory body, separate from vested interests. A sound legal framework and a predictable regulatory regime are essential.

- Governments must identify priority PSP projects. This will almost always require an independent feasibility study, which focuses on traffic and tariff policy, project staging, network integration issues, risk allocation, finance and implementation issues.

- The best prospects for BOT projects are in middle-income countries (where the willingness-to-pay tolls exist) along existing congested corridors, or where there are missing links (e.g., estuarial/river crossings). A regulated income stream from a tolled public toll road is capable of securing project financing of an appropriate kind (i.e., suitable to pension funds and other long-term investor groups).

- Private sector modalities other than BOT exist, e.g., concessions, and should be applied more widely, as they can address many of the sector problems, and in the process create a new high growth industry for transport management companies.

- Traffic risk is the major risk and may be shared. The core risk being taken by the private sector, with government taking a share of the upside benefit and providing a downside guarantee in the event of low traffic.

- Transparency and competition are essential in the procurement process.

- Government support should be defined upfront as a maximum so that the private sector can prepare realistic bids.

D. Ports

In the port sector, the transfer of cargo-handling activities to the private sector has been, in most cases, extremely successful in replacing inefficient government bureaucracy with commercially-oriented management. Improvements in productivity and maintenance has increased the quality of service. However, where there was no competition, these arrangements were less likely to sustain these improvements. Private investment in port infrastructure has generally been limited to new and existing cargo terminals. Trans-shipment terminals were the most successful, since they were less dependent on local markets and land transport. Greenfield ports were slower to develop because they were further from their markets and the transport access was less developed. Basic infrastructure offered few opportunities for full cost recovery.

The ports sector expert, noted that the private sector has always been actively involved in port affairs. The land and water transport services that use the port are almost entirely private sector. Nearly all of the cargo shipped through ports is privately owned. The private sector provides an array of complementary trade facilitation and logistics services for this cargo. Within the confines of the public port, cargo owners, forwarders, and ship agents actively participate in decisions concerning the handling and storage of cargo. The public sector's role is to own, develop, and manage basic port infrastructure and common-user facilities.

The process of port privatization has rarely involved pure privatization, since land and infrastructure are rarely sold. Instead, the process involves PSP in operations and investment in equipment and facilities. The process is not a monolithic effort because of the diversity and complexity of ports and the services they provide. It can be divided into three components: (i) institutional reform, (ii) divestiture of existing services and assets, and (iii) investment in new facilities and services. These can be implemented individually or in combination. For each port component, there are many possible public-private partnerships. The main points regarding moves to best practice were:

- The bidding process should encourage unbundling not only of the network but also for the services within the ports. Where ports are not financially viable, they should not be bundled with profitable ports, but treated as stand-alone facilities that are turned over to local government or put under management contract using a competitive tender.

- The landlord model is the best structure for promoting PSP because it accommodates different forms of public-private partnership while recognizing that the only fixed responsibility of the public port is the ownership of the site.

- The most effective and efficient procedure for promoting PSP in the port sector is to lease existing facilities with relatively short-term agreements that allow for reorganization and improvement in productivity. Subsequently, concession agreements can be used to encourage private investment in additional capacity. Where this capacity is required immediately, or labor problems make it difficult to lease out existing facilities, then concessions might precede lease agreements.

- Continued public investment will be required, as it is difficult to recover the costs for basic infrastructure in a time period reasonable to the private sector. Public investment may also be required to reduce the barriers to entry. This is important where a new entrant would otherwise have to make a large investment before competing with existing service providers.

- The best form of tariff regulation is market regulation; the second best is through the terms of the contract that identify the non-competitive services requiring regulation, state the maximum rates, the formulae for escalating these rates over time, and the arbitration procedures for discriminatory behavior in excess of that justified by commercial pricing. The third best is the establishment of a regulatory agency outside of the port which would apply a pricing formula related to cost recovery. All of these are preferable to a vague procedure for negotiating future changes in tariffs.

- The private sector should assume all commercial risks. Other risks should be negotiated, based on which party has the capability to mitigate the risk.

- The critical element in any effort to promote PSP is competition, or at least the potential for competition. This can be provided through direct competition between private sector service providers, between public and private service providers or between bidders in the case of an activity that does not allow competition.

E. Airports

For the airport sector, PSP in terminal operations produced significant improvements in financial performance and the quality of service. Private sector investments have increased substantially over the last five years. During the previous twenty years, there was little capital investment in airports, despite a five-fold increase in traffic. The airports coped with the higher levels of traffic through a combination of larger aircraft, better air traffic control, improved runway design, and the addition of second runways and additional terminal space. This period has now ended and most countries need to invest in new airports. These are proving to be costly, complex and often controversial investments.

The key policy questions concern how best to structure airports and groups of airports to obtain maximum customer benefits. The discussion in the volume on airports and air traffic controls indicates that there is little evidence of significant scale benefits flowing from multiple airport operation; equally, however, there is little evidence of significant scale diseconomies. The case for significantly reducing the concentration of airport ownership at privatization

therefore depends on the trade-off between the up-front and visible costs of re-structuring, and the possibly less tangible benefits of increased competition resulting from break-up. The competition benefits in this industry are not clear-cut, primarily because major airports mainly serve distinct regional markets.

In the United Kingdom, the authorities took the view that any potential competition gains from breaking up the British Airport Authority prior to privatization would have been offset by restructuring costs. In Australia, in contrast, the Government has preferred to restructure and reduce industry concentration radically, emphasizing the public policy benefits of inter-airport competition for long haul international traffic. The benefits of fragmented ownership also include those that flow from yardstick competition, enabling regulatory agencies to assess individual operator performance more effectively; and from introducing a limited element of competition by emulation between operators. The airport expert found the benefits from the Australian model to be greater. Key recommendations for the airport sub-sector are as follows:

- Airport privatization will be encouraged by the existence of legislation in the form of a BOT law or similar, signaling the government's recognition of the need for PSP in infrastructure provision. It is also important to ensure that the government is able to demonstrate that any projects offered to the private sector are economically viable.

- Regarding the optimum approach, full privatization based on asset transfer or acquisition through long-term leases is preferable to more restricted forms of PSP (but is also more demanding in terms of legal and regulatory frameworks).

- As to airport industry restructuring, there is no evidence of significant economies of scale in airport operation other than those associated with increased traffic density at a particular location. Hence, PSP can be based on individual airports (although facilities may need to be bundled to assist financing of major new developments or extensions to capacity).

- The existence of unprofitable airports does not justify the maintenance of a highly concentrated industry structure to facilitate cross-subsidies.

- Limited sharing of traffic and revenue risk (between the private sector partner and government) is justifiable in airport BOT or concession contracts.

- Denomination of some, or all, airport charges in US dollars is an effective way of hedging against currency risk and may significantly reduce the risk premium required by private investors;

- The benefits of PSP in airports are likely to be maximized by regulatory frameworks that incorporate good regulatory governance practice. The price-cap approach to constraining airport charges is likely to encourage better performance outcomes than one based on rate of return regulation.

- Competition for the market, whether through sale or leases, or BOT/concessioning, will be maximized by transparent bidding/sale processes.

V. THE ROLE OF THE ASIAN DEVELOPMENT BANK

The crisis has focused on the urgent need for institutional strengthening and governance reforms in both the financial and infrastructure sectors, areas where ADB can play a major role. There are a number of ways identified in the study in which ADB can assist in the reforms associated with increased PSP in infrastructure. The most obvious is to provide technical assistance to define policy objectives, develop network master plans, identify and evaluate projects, define the role of new regulatory institutions, and train regulators to handle their new responsibilities, prepare contracts and negotiate with the private sector. ADB's efforts to promote financial sector reform and develop long term capital markets will also be important. This would include efforts to improve the bankruptcy laws, and the regulation of domestic debt and equity markets.

In order for ADB to have a significant role in promoting PSP, it should link this promotion with on-going project lending. ADB can provide support for private sector investment directly through its private sector window and through its guarantee operations. More importantly, ADB should provide sovereign loans to complement but not compete with private sector investment in the form of public-private partnerships. Public sector project lending should also be used to finance basic infrastructure that cannot be packaged into financially viable investments for the private sector but provides significant economic benefits and improves sector efficiency. Program lending is another key modality to promote the necessary reforms where ADB provides financing for the adjustment costs in stages, upon the satisfactory achievement or fulfillment of government actions that will promote PSP and sector restructuring. This modality allows ADB to exercise some leverage on government decisions and actions to support reform. Country strategies should address which areas of development are to be financed by government using sovereign loans, general revenues and government bonds and which are to be financed by private investment and should ensure a coordinated approach to all forms of ADB assistance.

PART TWO

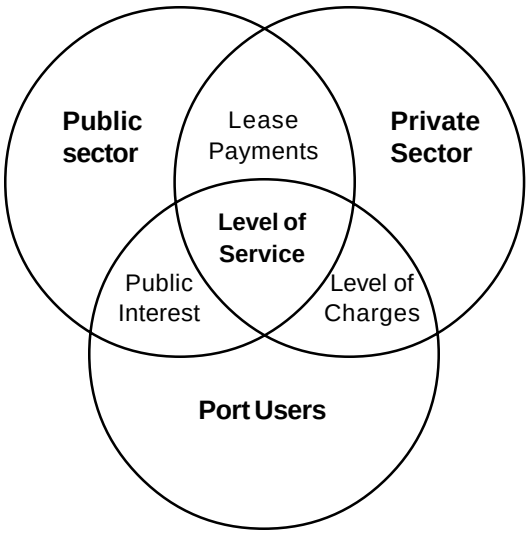
PORTS SECTOR REPORT

I. BACKGROUND

A. In the Public Interest[1]

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.

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[1] 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.[2] 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.[3] 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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[2] Some of the public ports were created as a result of the nationalization of these railroads.

[3] 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.[4] Public accounting systems did not allow for effective cost control systems. Central government regulation of tariffs led to cost-based pricing.[5] 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,[6] 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,[7] Los Angeles/Long Beach, Hong Kong, China[8] (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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[4] Whether by paying too much or procuring inappropriate and unnecessary assets.

[5] 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.

[6] 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.

[7] 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.

[8] 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

Tool	Service	Service-Landlord	Landlord	Tool-Landlord
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 lessfrequent 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.[9] These global operators generally partner with local companies. The latter develop their expertise in port operations and subsequently take on concessions in smaller ports.[10] 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.[11] 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.[12] 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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[9] Sealand, American President Lines (now part of Neptune Orient Lines) and Maersk Lines, among others, continue to operate an extensive network of container terminals.

[10] 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.

[11] 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.

[12] 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.[13]

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. Hessanatie'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

[13] 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.[14]

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.

[14] 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.[15]

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.[16] This practice hinders the establishment of a cadre of professional port managers.[17] 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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[15] 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.

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

[17] 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[a]	Indonesia	PRC	Malaysia
Thailand[b]			Singapore
Sri Lanka			PRC
Korea			India
			Pakistan
			Bangladesh

[a] *There is a separate authority for Cebu and more are expected.*
[b] *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.[18] 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

[18] 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.[19]

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.[20] 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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[19] 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.

[20] 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

• **Cargo**	• **Infrastructure**
Stevedoring, Longshoring	Hydrographic Surveys
Equipment Operations	Dredging
Transit Storage	Repair and Maintenance
Receiving and Delivery	Engineering Design
Cargo Tracking	New Construction
Consolidation, Unitization	Equipment Procurement
Warehousing	
Assembly and Processing	• **Marketing**
Land Transport Barging	Market Research
	Promotion and Sales
• **Vessel**	
Navigational Aids	• **Management**
Pilotage	Billing Accounting
Towage	Data Processing Staffing
Bunkering	
Utilities, Garbage Removal	• **Security**
Stowage, Planning	Security Forces
Anchorage, Buoys	Fire and Rescue
Launch Services	Pollution Control
Vessel Repair	

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 days 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.[21]

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.[22] 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.[23]

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[24] 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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[21] 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.

[22] To date only the UK has introduced full privatization of its public ports.

[23] 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.

[24] 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.[25] 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.[26] 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.[27]

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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[25] These include the B-rated options, build-own-operate, build-operate-transfer, build-own-operate-transfer, build-transfer-operate, build-lease-transfer, etc.

[26] 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.

[27] 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.[28] 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).

[28] 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

Contractual Agreements Objectives	Improve Operational Efficiency	Accelerate Traffic Growth	Attract Private Investment	Reduce Operating Subsidies	Reduce Government Deficits	Reduce Downsize Government	Depoliticise Labor and Management	Promote Publlic Ownership
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 Privitization	•••	••	•••	•••	•••			
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.[29] 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

[29] 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.[30] 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.[31]

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.[32] 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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[30] The US port of Charleston has outsourced its regional marketing, Jardine is attempting to provide marketing services for US ports in Asia.

[31] 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.

[32] 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.[33] 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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[33] 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.[34]

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.[35] 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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[34] 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.

[35] 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.[36] in India, the development of private ports has centered in Gujurat where there is some natural protection against winds and waves.[37] 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

[36] River ports, being less costly to develop, have been more attractive sites for private port development.
[37] There are a number of socio-political factors which have caused Gujurat 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.[38] 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.[39] 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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[38] 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.

[39] 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 shorterterm 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

Financial Components / Financial Objectives	Increase Operational Efficiency	Improve Chance of Commerical Success	Promote Timely Investment	Reduce Required Risk and Return	Improve Access to Capital
Financial Options					
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**	
Financial Provisions					
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 orTypeof 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.[40] 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.[41]

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

[40] A pricing structure based solely on current costs discourages capital investment or improvement in the quality of services.
[41] 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.[42] 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

[42] 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.[43] 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.

[43] 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.[44] 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

- ***Commercial Loans***
  Convertible
  With Guarantees
  Limited Recourse Project Finance Debentures
  Revenue
  General Obligation
  Mortgage
- ***Public Share Offerings***
  Institutional Investors
  Multilateral Development Banks Private Sector Loans
- ***Join Venture Equity and Debt***

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.[45]

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

[44] Revenue bonds have been instrumental in the development of the US ports.
[45] 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

• ***Commercial***	• ***Regulatory***
Traffic	Rules of the Game
Pricing	Responsiveness of Regulator
Competition	New Laws and Regulations
	Investment Cost Recovery
• ***Financial***	Control/Ownership of Assets
Inflation	
Cost of Capital	• ***Completion***
Exchange rate	Permits and Approvals
Convertibility, Repatriation	Contracting, Procurement
Continuing Availability	Construction Delays
Default, Change in Ownership	Cost Overruns
• ***Force Majeure***	• ***Labor Relations***
Expropriation	Productivity Gains
Riots, Law and Order	Wage Growth
Natural Disasters	Restrictive Practices
	Labor Confrontation
• ***Technical***	Pension Liabilities
Design Failure	
Performance and Reliability	
Obsolescence	
Loss of Access	

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.[46] 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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[46] 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/procuremenVinstallation 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

Category	Sources of Risk	Participant — Mitigation Techniques
Technical	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
Commercial	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
Completion	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
Financial	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
Regulatory	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
Labor	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
Force Majeure	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.[47]

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.[48] 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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[47] 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.

[48] 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 frequents 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 ranae 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 longshoreman 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

- ***Own and preserve foreshore and areas for port expansion***
- ***Enforce government regulations affecting port activities***
- ***Provide basic infrastructure***
  - Pon-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.[49] 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.[50]

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.

[49] 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.

[50] 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.[51] 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.[52] Although publicly managed, each has a significant level of PSP in cargo-handling operations.

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[51] 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.

[52] 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.[53] Private ports and special-purpose terminals have avoided the problem of

[53] 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.[54] Most public ports are constrained from using commercial debt.[55] 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.[56]

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[54] 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.

[55] During the boom years in Southeast Asia there was increasing use of lending from domestic banks, often with the encouragement of the government.

[56] As the Malaysians were able to do so effectively with their golden shares.

There are no best practices for private finance of port in vestment. 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 tree 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 increasing 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.[57]

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 lead 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

[57] 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-handing 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.[58] 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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[58] 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.[59]

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:

[59] 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[60] 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

[60] 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.[61] 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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[61] 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. It 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 EUtype 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.[62] 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.[63]
- 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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[62] This should be accomplished by reducing the costs to the private sector rather than increasing the costs to the port users.

[63] 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.

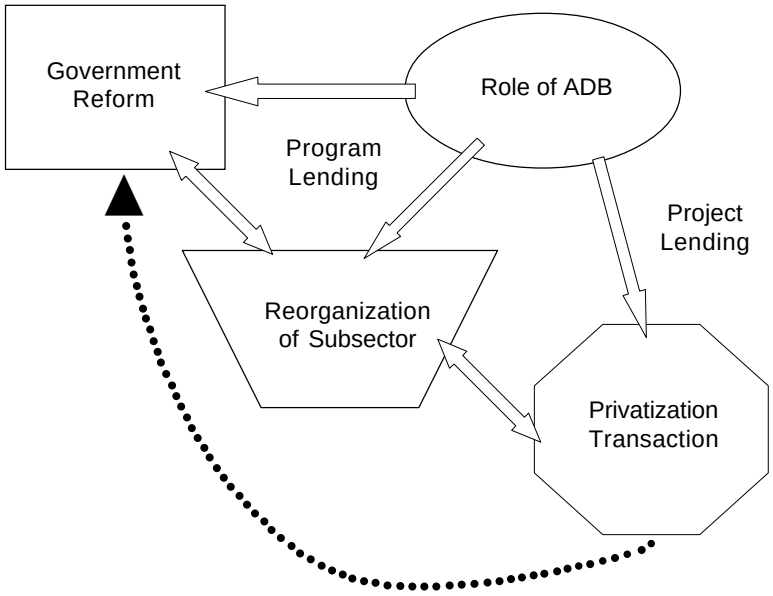
XII. THE ROLE OF THE ASIAN DEVELOPMENT BANK

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.[64] In most of ADB's client countries, the dialogue on privatization of parastatal organizations is already mature but the reforms are largely unfinished.

[64] 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.[65] 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

[65] 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.[66] 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.[67]

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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[66] 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.

[67] 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 overstaffed 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.

APPENDIX

MAJOR CONTAINER TERMINAL OPERATORS AND CONCESSIONS

The last ten years have seen a dramatic increase in private operation of container terminals. This has been accomplished primarily through concession agreements with special-purpose companies, which include significant foreign participation. A relatively small number of international companies have dominated these concessions.[1] They include both terminal operators and shipping lines.

A. Terminal Operators

There are five major terminal operators and these tend to concentrate on container terminal concessions. These companies and the terminals, which they are involved, are summarized in Table A1.1. The largest, in terms of volume, is Hutchinson Port Holdings (HPH) which handled 11 million twenty-foot equivalent units (TEU) in 1997. HPH is a subsidiary of Hutchinson Whampoa, a large property, trading and telecoms company, which produced US$1 .5 billion profits on revenues of US$4.7 billion in 1997. Their port operations were reported to generate US$306 million of their profits and US$1 .044 billion of their revenues. HPH began as the operator of Hong Kong International Terminals Inc. (HIT) which currently operates 12 berths with a volume in excess of 6.5 million TEU. The sites for these terminals are leased from the Harbor Board for a 100-year period, with the terminal operator financing both the civil works, including the reclamation of the site and the equipment. HPH also owns one of Hong Kong, China's largest midstream container-handling companies and has a joint-venture operation with Cosco shipping.

HPH's major acquisition over the last decade has been the Port of Felixstowe, which it acquired from P&O Ferries in 1991. It owns this port on a freehold basis and has a similar relationship for its new terminal in Freeport in the Bahamas. The former currently handles in excess of 2.25 million TEU and has done much to revitalize the container trans-shipment business in the United Kingdom (UK). The latter handled close to 0.5 million TEU in its first full year of operation and has led to the re-routing of container services on the East Coast of the United States (US) and Latin America by creating a central hub outside the Caribbean. HPH has also obtained the concession to operate the container terminals at both ends of the Panama Canal.

In Asia, HPH has also expanded aggressively in the People's Republic of China (PRC), most notably with its extensive operations in Shanghai where it enjoys a near monopoly position in joint venture with the Port Authority.

In selecting concessions, HIT looks for multiple-berth facilities where the Government provides adequate hinterland access and the market is already well-defined. While it prefers complete ownership, it has been involved in a number of joint ventures but seeks a major position in these companies. Because of the high cost of human resources, HIT is not interested in small ports and terminals. HIT finances most of its expansion through project finance but financed the terminals in the Delta ports in PRC with a US$275 million bond issue.

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[1] There is a similar concentration of terminal operators for bulk cargos such as petroleum, grains and minerals but this is linked with ownership of the cargo.

P&O Ports of Australia is an off-shoot of P&O Shipping. Its initial experience in terminal operations was providing stevedoring services in Australia and operating the Port of Felixstowe. Its subsequent international expansion began with its participation in Bangkok Modern Terminals in 1988. There followed its participation in ATI terminal in Manila and the tortuous but eventually successful bid for a terminal in Buenos Aires.[2] Since that time, its focus has been primarily on concessions in the Far East. There were several unsuccessful attempts in PRC and Viet Nam. More recently it has expanded into South Asia with concessions in Colombo, Nhava Sheva, and Port Qasim.[3] It has also taken a significant stake in the company, which operates facilities in Genoa and Cagliari in Sardinia. P&O shipping also has large stakes in joint venture container terminals at Tilbury and Southampton. In Egypt, P&O has taken a position in the concession for the container terminal in Port Said on the north end of the Canal.

International Container Terminal Services, Inc (ICTSI) began its port operations in Manila with the concession for Manila Container Terminal, which it took over in the late 1980's. Since then, it has expanded aggressively winning concessions in Buenos Aires and Vera Cruz, Mexico. It has joined with American Presidents Line shipping in a concession in Karachi and won the concession for Dammam in Saudi Arabia. This concession has been very successful because shortly after winning the bid, the terminal operator was able to convince the Government to allow it to handle trans-shipment cargo for Bahrain and Doha, thereby producing a substantial increase in volume. Most recently, ICTSI obtained a 30-year concession to operate the port of Rosario in Argentina located on the Parana River upriver from Buenos Aires. This is primarily a bulk port but with the potential for development to handle containers. The agreement calls for an investment of US$80 million over the next ten years to modernize the port's facilities. ICTSI has tended to look for positions, which offer a monopoly position and has won many of its concessions by submitting offers well above its competitors (Vera Cruz, Ensanada, Subic). It will also attempt to reduce the competition by seeking to buy out competitors (e.g., Buenos Aires)

Stevedoring Services of America is a US stevedoring company which operates a number of terminals in the US. Since 1992, it has expanded its operations to Latin America and Africa through its International Seaports subsidiary. So far, it has had limited success in its efforts to enter the Asian market but has taken on a concession in Chittagong. Its concession in Manzanillo, Panama, together with a local car importer, has proved immensely profitable, handling over 0.5 million TEU in its first year of operation. It has also established a joint venture in the port of Manzanillo Mexico with TMM, the national shipping lines. It involves itself in a full range of stevedoring activities in addition to container operations.

The Port of Singapore (PSA) has entered aggressively into the business of container terminal concessions. With the corporatization of the PSA, it has been able to invest overseas through a separate subsidiary headed by its former Chief Executive Officer. The company has been most successful in PRC, notably the port of Dalian where it achieved a throughput of about 0.5 million TEU in the first year of operation (jointly with Maersk). Singapore has recently entered the Indian market by obtaining a 30-year concession to operate the container terminal in Tuticorin and to procure ship-to-shore and yard gantry cranes for the terminal. PSA has also established a distribution park activity in Chennai.

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[2] It has since substantially reduced its position in this concession following a significant loss.
[3] The first is operational, the second is about to become operational, the last is still under negotiation.

The PSA has used its considerable cash reserves and its annual surplus of nearly US$0.5 billion to catch up after a relatively late entry into the international market. To do this it has relied, in part, on taking positions in other companies. For example, PSA took over Sinport in Italy in order to obtain control of terminals in Genoa, Venice, Livorno, and Livitavecca.

The company has also been willing to bid high for projects and to take on concessions that others have rejected in order to establish itself in the market place. For example, in Aden it has entered into a 20-year concession for the new container terminal facility together with a local investment company after ICTSI and others had abandoned negotiations. As part of this agreement, PSA will provide 49 percent of the equity, much of it as cash. It will also have the engineering contract for construction of the new terminal and a 20-year management contract. Recently, the company has issued a US$250 million floating rate note to finance its overseas expansion.

A second tier of terminal operators has appeared on the scene in the last few years, including the major terminal operators in Rotterdam, Hamburg, Bremen, Antwerp, and Dubai. Europe Combined Terminals in Rotterdam has taken on concessions including the port of Trieste and a barge port in Duisburg, Germany. The major terminal operator in Bremen has merged with Eurokai in order to be in a better position to take on concessions. In Amsterdam, the US stevedoring company Ceres has acquired a major container terminal operation. It is now seeking other overseas concessions following its joint venture agreement with the Port of Odessa to operate its container terminal. Dubai Ports Authority has recently taken on the port concession for the new port near Beirut.

B. Shipping Lines

A number of shipping lines decided to invest in dedicated terminals. The leaders in this approach were US carriers Sealand and Matson. Sealand operates about 15 terminals most notably the one in Hong Kong, China where it provides service to itself and other carriers. It operates a number of terminals on both coasts of the United States. It has recently established trans-shipment terminals in the Mediterranean at Algeciras and in the Gulf at Salalah, Oman. The latter was developed largely with government funding and will be operated as a joint venture with Maersk and Omani shareholders. They are expected to move close to 0.5 million TEUs of traffic during the first year of operation. The Omani government is now seeking to develop a complementary free trade zone along the lines of Jebel Ali.

Maersk lines has an extensive network of terminals in Kaohsiung, Yokohama, Algeciras, and on both US coasts. These facilities will now be integrated with those of Sealand to serve their east-west services. Maersk is also seeking to establish a terminal in Qingdao in combination with the Hong Kong, China terminal operator, Modern Terminal Limited. Furthermore, it has joined with PSA in the operation of Dalian.

Table A1.1: Major Terminal Operators and Their Port Involvement

Operator	Ports
Hutchinson Port Holdings, Hong Kong, China	Hong Kong, China, Felixstowe, Thamesport, Harwich, Freeport, Balboa and Cristobal, Shanghai, Xiamen, Yantian, Shantou. Nanhai, Jiangmen, Delta Ports (Gaolan, Jiuzhou, Shanshan, Zhuchi, Gaosha), River terminal, Rangoon
P&O Terminals, Australia	Sydney, Melbourne, Brisbane, Fremantle, Southampton, Tilbury, Genoa, Cagliari, Nhava Sheva, Qasim, Colombo, Bangkok (Bangkok Modern Terminals), Laem Chabang, Shekou, Manila, Buenos Aires, Vostochny (with Sealand), Maputo
Port of Singapore Corporation, Singapore	Aden, Genoa, Dalian, Fuzhou, Tuticorin, Singapore, Nandong, Venice.
ICTSI, Philippines	Manila, Karachi, Buenos Aires, Vera Cruz, Ensanada, Dammam, Rosario.
Stevedoring Services of	Manzanillo (Panama), Manzanillo (Mexico), Various US ports including terminals America in Seattle (with Cosco), Tacoma, Oakland, San Francisco, Los Angeles, Charleston, Savannah, Jacksonville.
Europe Combined Terminals	Rotterdam, Trieste, Duisburg (barges).
Hessanatie	Antwerp, Zeebruge.
Eckelmann Eurokai	Hamburg, Gioia Tauro and La Spezia (together with Contship).
Ceres Terminal	Montreal, Halifax, Nova Scotia, Baltimore, Norfolk, Charleston, Savannah, Houston, New Orleans, Odessa, Amsterdam.
Sealand	Hong Kong, China, Kaohsiung, Yokohama, Rotterdam, Algeciras, Long Beach, Oakland, New York, Baltimore, Tacoma, Rio Haina, Adelaide, Salalah, Tianjin (pending).
Maersk	Salalah (together with Sealand), Dalian (together with Port of Singapore Authority), Ylantin, Qingdao, New York, Oakland, Long Beach, Montevideo
Evergreen	Los Angeles, Charleston, Tacoma, Coco Solo (Panama), Kaohsiung, Laem Chabang, Taranto.
Cosco	Participation in various PAC ports with Hutchinson and P&O Ports, Naples, Long Beach.
Neptune Orient Lines/ American Presidents Line	Karachi, Oakland, Seattle, Los Angeles, Kaohsiung, Yokohama, Kobe, Ho Chi Minh.
Contship Italia	Le Spezia, Savona.
Assoc. British Ports	Cardiff, Grimsby, lmmingham, Southampton, Tilbury.
Hamburger Haten- und Lagerhaus-AG	Hamburg, Buenos Aires.

CURRENT ROLE OF PRIVATE SECTOR

The private sector's involvement in port operations has always been linked with the activities of merchant shipping. The responsibility for providing services both to the ship and its cargo has been assumed by the vessel's agent, the cargo owner or the port. The first two will undertake this responsibility by contracting services directly from the private sector where this is permitted or from the port where this is required or more convenient. As public ports have reduced their responsibility for operations, a natural division of responsibility has evolved between not only the public sector and the private sector but also between the port and the government as shown in Figure A2.1. Relatively few activities remain exclusively with the public sector although a number of activities can be performed by either the public or private sector. The major activities that should be undertaken entirely by the private sector are the provision of cargo-handling labor and equipment and the management of cargo terminals. The vessel services can be provided by any of the three. The port retains responsibility for planning and technical regulation. The government retains responsibility for regulation of customs, inspection of vessels, and provision of landside access to the port. It also has responsibility for economic regulation to the extent this is required.

A. Cargo-Handling Labor

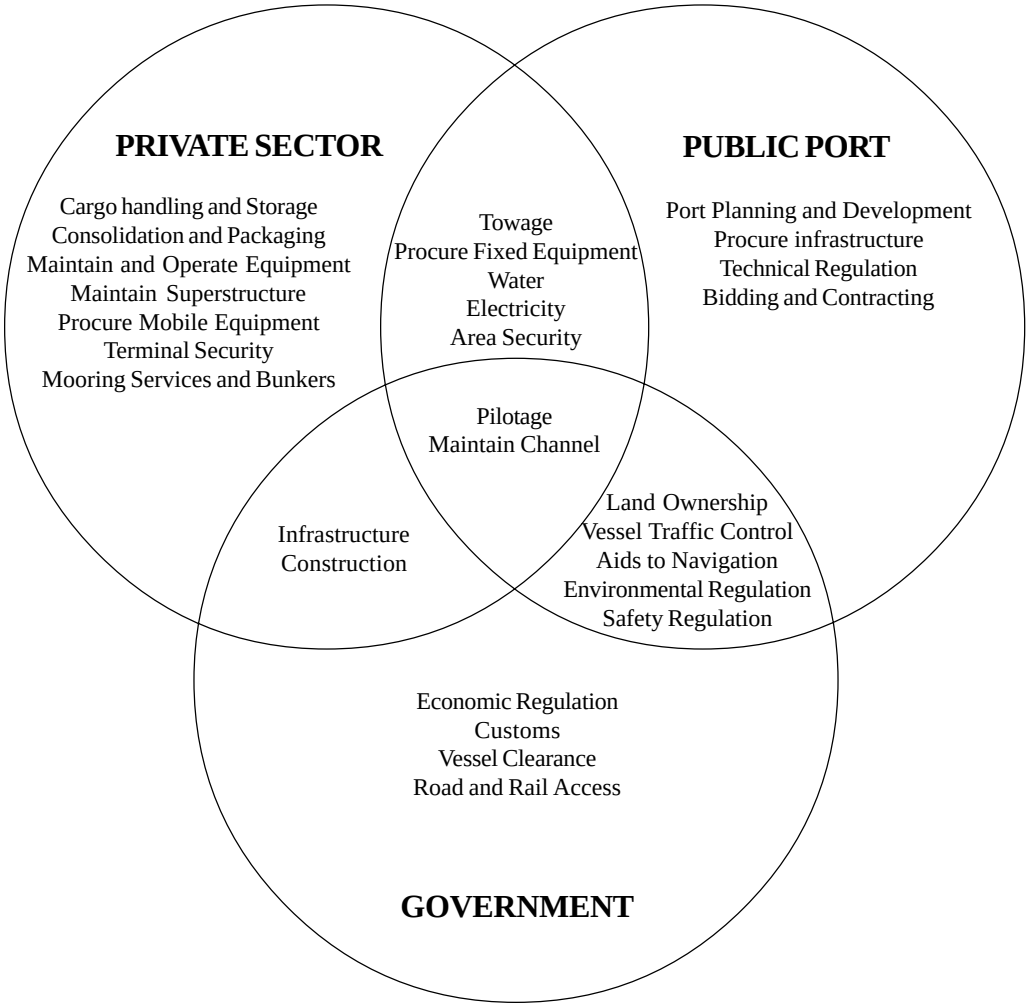
The transfer of cargo between the vessel and the apron (stevedoring) was traditionally performed by private stevedoring companies hired by the vessel. For resource ports, the vessel had responsibility for inbound cargo until the cargo was received on the apron by the consignee or his/her representative. The vessel's responsibility for outbound cargo began when it received the cargo at the apron for loading. For operating ports that provided intermediate storage for cargo, the stevedoring was performed by private labor and sometimes included the movement of the cargo between the apron and the storage. The movement between the storage and the shipper/consignee was performed by port employees or casual labor hired by the port. In the 1970's, there was a move to decasualize port labor. Wharf labor became permanent port employees and stevedores received minimum guaranteed employment. During the same period, the unitization of cargo and increased mechanization eliminated the distinction between stevedoring and wharf-handling and produced integrated gangs composed of port employees.

The first to convert to unified operations were bulk cargo terminals. The operator of the terminal was usually the cargo owner and often the charterers of the vessels. Their employees operated the equipment that transferred the cargo between the ship's hold and to storage. The next to convert were cellular container vessels where the movement of the box between the cells and the storage yard was controlled by the equipment operators who were port employees. The last to convert were breakbulk operations. The cargos were increasingly unitized or configured as neo-bulk reducing the risk of damage in the movement between the hold and the apron. With wider hatches and better handling equipment the risk was lowered to the point where the ports converted to unified gangs in order to increase the efficiency of the movement between the vessel and the storage.

The provision of labor by the private sector can be in the form of casual labor or employees of private cargo-handling companies. Casual labor is necessary where there is considerable fluctuation in the traffic from day to day or season to season. With the increase in mechanization, there was a need for a small regular workforce of skilled and semi-skilled workers. Public ports provided this workforce during the 1970's and 1980's but resistance to the changes in work rules limited improvements in productivity. In the Middle East, this problem was resolved through labor contracts under which foreign labor was brought in to handle cargo. This

was not appropriate in other countries because of issues of cost and domestic labor peace. They chose instead to bring in private cargo-handling companies to manage local labor.

Figure A2.1: Allocation of Responsibility for Port-Related Activities



B. Equipment

The provision of cargo-handling equipment has changed substantially over the last 50 years. For bulk and container vessels, the use of ship's gear has declined as more efficient quayside equipment has been introduced. Self-sustaining vessels continue to serve underdeveloped ports, but are increasingly rare. For breakbulk cargo, the opposite situation has occurred. General cargo vessels are increasingly equipped with high-speed, heavy-lift cranes. Piers dotted with a multitude of three to five ton quayside cranes and multi-storied transit sheds have been replaced with open wharves and large sheds set well back from the berth. On the wharf, equipment for unitized general cargo is usually provided by the port except for the smaller mobile equipment provided by private cargo-handling companies. The fixed and mobile equipment used in containers and bulk terminals are provided by the port or a terminal operator under contract with the port.

Most of the large cargo-handling equipment owned by public ports is acquired through competitive bid,[1] a procedure which the multilateral development banks (MDBs) encourage. In many instances, the port will receive equipment from bilateral donors together with subsidized financing. In contrast, the private operators purchase the equipment directly from the manufacturers to ensure reliability and uniformity. They are able to negotiate a price, which is usually lower than that provided through open tender.

Equipment leases are less popular since supplier credits and MDB financing provides comparable value.[2] Operating leases with the supplier assuming responsibility for maintenance of the equipment are not yet common but can offer an effective solution for ports that are unable to maintain their equipment.[3]

C. Terminal Operations

The increase in specialization of maritime shipping (dry bulk, liquid bulk, neo-bulk, containers, project cargo, reefer cargo) has led to a comparable specialization in cargo-handling services. Larger vessels and increased volumes being transported by individual shipping lines or consortia has allowed ports to increase berth throughput. This has led to a transformation of ports from wharves containing common user multi-purpose berths to a collection of special-purpose berths. The private sector continues to provide cargo-handling services for multipurpose berths but the terminalization of these berths in order to place them under private operation has become increasingly popular. This transformation lies at the heart of the current expansion of private participation in port operations.

Private operation of cargo terminals located in public ports is accomplished through various contractual agreements. Management contracts allow the port to control the use of the berths and to set the tariffs while allowing the private sector to provide more efficient supervision of operations and maintenance. However, this approach has not been popular with public ports or the private sector because it does not allow for reduction in labor or changes in work rules. This approach also has difficulties with the assignment of shared responsibility for maintenance and complementary services. The recent failure of the management contract for the container terminal in Mombasa provides a useful lesson. The private operator saw considerable opportunity for restoring operations to an efficient level but the port was first required to overhaul the gantry cranes and then to facilitate the landside clearance of containers. When the government failed to meet these obligations, the terminal operator canceled the contract. The management contracts in Jebel Ali and Jeddah were more successful, but their facilities and equipment were newer and the private sector had greater control over operations and labor.

Capital leases, in combination with an operating agreement, have been the most common mechanism for private terminal operations. They are used where facilities and major equipment are already in place and little additional investment is required. The private sector operates the terminal with far fewer constraints due to government regulation. This mechanism

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[1] There is also less commission for those arranging a lease rather than a sales/purchase agreement.
[2] Capital leases are relatively uncommon in part because there are no specific tax benefits for public ports.
[3] The recently acquired gantry cranes in Nhava Sheva were obtained through a lease which requires the lessor to maintain crane availability at international standards. These are well above the relatively low availability the port had been able to achieve. In Valparaiso, Chile, the handling of containers was performed for many years by a single Whirley crane operated with reasonable efficiency through an operating lease.

was used for the initial "privatization"[4] of container activities in Karachi, Laem Chabang, Manila, Port Kelang, Pusan, Qasim, and Surabaya.

Capital leases can be difficult to implement where there is overstaffing or difficulties with customs and land transport. This has led some ports to use concessions to create entirely new facilities.[5] Concessions are similar to capital leases but include a commitment by the private sector for substantial capital investment. These agreements are used not only when new terminals are being constructed but also when older facilities are being renewed or converted to special-purpose terminals. Concessions have become increasingly popular as a method of financing port investment.[6]

D. Vessel Services

The role of the private sector in the provision of services to the vessels varies from port-to-port. Because the overall efficiency of the port depends on providing effective vessel services, public ports often assume responsibility for these services, either directly or through outsourcing. This is frequently required in smaller ports where the demand is insufficient to attract competitive private sector services. However, where the port provides the services directly, there is a tendency for the quality to deteriorate due to poor equipment maintenance and delayed replacement, over-manning and restrictive work practices, poor coordination and lack of client orientation.

In the larger public ports, there is a growing tendency to allow open competition for vessel services. Ship repair, towage, provision of marine craft and lighters, mooring gangs, and water/ garbage removal services can be performed efficiently by competing private sector companies. The collection and processing of ship wastes to meet MARPOL requirements was initially provided by the port primarily through outsourcing, but as the demand for these services increased, private companies began to compete for the provision of these services.

Pilotage has remained under public sector supervision because of the natural monopoly. Problems of high costs, restrictive practices and lack of client orientation are equally prevalent whether the pilots are government employees or professional associations of self-employed pilots.

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[4] The term privatization has been used inappropriately in a number of countries. In Port Kelang, the container terminal was leased by the public port to a consortium of government agencies and state-owned enterprises (SOEs). In the People's Republic of China, the lessee is generally a joint venture which includes the port authority. In Pusan, the terminal operators are SOEs's or joint ventures involving SOEs.

[5] The decisions to construct new terminals in Nhava Sheva and Colombo, rather than lease existing facilities, were intended to avoid the problem of rationalizing the existing labor force.

[6] In Laem Chabang, the initial five terminals were placed on the market through capital leases, but the sixth terminal was a concession. All subsequent terminals will be built through concession agreements in order to minimize port cash outflow for a rapid buildup in port capacity.

PORT PRIVATIZATION IN INDIA AND THAILAND

The countries of India and Thailand have had similar experiences in their efforts to increase private sector participation (PSP) in the port sector. Their major ports are characterized by inefficiency, congestion, and over-staffing. As a result, the costs to the port users are high and these ports act primarily as feeder ports despite the size of the economies they serve. Container traffic is currently trans-shipped through Singapore, Colombo, and Dubai. The inefficiency of the ports, combined with problems in land transport, has meant that they have lagged in the introduction of intermodalism and improvements in logistic services.

Both countries have experienced considerable resistance to reform of the port sector. The reform that is occurring takes place not in the existing major ports but through the establishment of new public ports which do not have entrenched bureaucracies and militant unions and through the development of private ports which provide capacity that the public sector cannot finance. In both countries, the public ports are financially independent and have thereby avoided the initiatives to privatize the money-losing state-owned enterprises (SOEs). Their port sectors have generated considerable financial surpluses through a combination of under-investment and passing on their high costs for labor and administration to the port users and ultimately, the economy. Both countries have port operations that depend heavily on speed money and other forms of unofficial payment to move cargo through the port. The result is that the major ports discourage efficient transport and create a competitive disadvantage for the nation's trade.

There are several lessons to be drawn from the situation in these countries. The first is the high cost to the country from inefficient public port operations. The second is that increasing PSP is not only desirable but also inevitable and where it cannot be done directly it must be accomplished indirectly. The third is that there is considerable naivete on the part of the government and often the multilateral development banks (MDBs) about the willingness of the private sector to finance capital investment and to engage in active competition for port services.

A. India

The Indian Shipping Act of 1908, divided the ports into: major ports under the jurisdiction of the federal government and minor ports under the jurisdiction of the state governments. The Major Port Trusts Act (MPTA) of 1963 established autonomous port trusts under the Ministry of Service Transport to operate six major ports, Calcutta, Mumbai, Chennai, Cochin, Tuticorin, and Vishakhapatnam. The number was subsequently increased to 10. Most recently, Jawaharlal Nehru Port Trust (JNPT) was added to this list. The state governments manage their ports through Maritime Boards, which have powers similar to the Major Port Trusts.

Both the Shipping Act and the MPTA permit private sector activity in the leasing and construction of port facilities but do not encourage it. In 1996, the government issued its Guidelines on Privatization, which more precisely defined the options for PSP in the Major Ports and attempted to expedite the procedures for increasing private sector involvement. The response to these initiatives has been slow.

The first major port to increase private participation in terminal operations was JNPT, because it was relatively new, had a relatively small labor force and was established under a different act. In 1994, it proposed the concession of the container terminal at Nhava Sheva. It required four years for this concession to be completed. During this period, it was decided not to

concession the existing terminal, but rather to use private sector finance to develop a new terminal.[1] The agreement was extended from 20 to 30 years and the license was converted to a lease. The concessionaire would construct a 600 meter extension of the existing wharf berth and equip it with six S-S gantry cranes according to specifications included in the agreement. The existing port labor would remain with JNPT and the consortium would hire directly from the marketplace. The concession was granted to Nhava Sheva International Container Terminals Ltd, a consortium of P&O Terminals (49 percent), Konsortium Perkepalan Berhad a Malaysian Logistics Group (46 percent) and DBP Port Management a Bombay stevedoring company (five percent). The investment was to be financed initially through shareholder equity but the proponents will then seek project finance from commercial lenders. Typical gearing for these types of concessions has been 1.5:1 (debt to equity). The consortium will also enjoy protection from competition until traffic reaches 90 percent of design capacity.

Following the 1994 initiative in Nhava Sheva, the Government proposed to allow private participation in other major ports in the form of leasing and creation of new assets. This would allow for 100 percent foreign equity (if approved by the Foreign Investment Promotion Board), and build-own-transfer (BOT) agreements for 30 years, with tariff revisions permitted every three years. Based on the experience in Nhava Sheva and elsewhere, the Ministry of Service Transport is now in the process of developing standard bidding documents and concession contracts. In May 1998, the government issued guidelines permitting joint ventures between the Major Port Trusts and foreign port trusts and between major and private sector controlled minor ports. These guidelines also permit the Major Port Trusts to establish joint ventures with private companies but only through a tendering process.

The Government has been slow to follow up on these initiatives. Most of the changes in the Major Ports have been incremental. For example, the Mumbai Port Trust has licensed two of its berths to the shipping lines XCL/Orient and has allowed the private sector to provide all of the container-handling equipment, except ship-to-shore gantry cranes. It is now considering private investment for the development of a chemical and coal berth. The latter is now under discussion with TATA.

Other initiatives include: a competitively bid container terminal concession in Tuticorin which was awarded to the Port of Singapore Authority; a build-own-operate-transfer concession for a coal terminal in the port of Mormugao negotiated with an equipment supplier, ABG; and a tender for the extension and operation of its container berths in Chennai which is about to be signed. Plans for private development of container terminals in Kakinada and Kandla and bulk berths in New Mangalore are underway. Feasibility studies have been prepared for all private investments but these have lacked rigor. These proposals take different approaches to the problems of labor. In Kandala, the concession would involve an existing berth and port labor whereas in Tuticorin the concessionaire could hire new labor but still use existing facilities.

Despite these initiatives, the federal government has been less effective than the state governments in increasing private sector involvement in port activities. The Maritime boards and minor ports have showed increasing interest in the development of port concessions. The sites under consideration do not require breakwaters or long access channels and thus avoid the problem of funding basic maritime infrastructure. Land access represents a significant cost for

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[1] The impetus for the concession was the combination of the rapidly increasing traffic and the indebtedness of the JNPT which prevented it from financing new capacity.

the new ports since most of the sites are isolated. In some cases, the proponents have agreed to construct their own access but others are relying on the state to develop the access, thereby significantly increasing the completion risk. The first state port to be concessioned to a private party was Krisnapathnam, in 1997, followed by Allewdadi in Maharashtra. The former was intended to handle coal for a large power plant. Since the power plant has not been constructed, the concession agreement has not been suspended.

The State of Gujurat has been the most aggressive in identifying potential ports. These are primarily special-purpose ports, however, two private ports, Mundra, and Pipavav, that became operational in 1997 are sheduled to handle third-party, general cargo. The former is a bulk port which its owner, Adani Exports, proposes to develop for container handling. The latter is a common-user facility to be under public-private control through a joint venture of Sea King Engineering and the Gujarat Maritime Board.

Pipavav is a four berth bulk cargo port at which containers and breakbulk cargo will be handled at one of the dry cargo berths using a Gottwald mobile crane. Negotiations originally began in 1991. Though most of the agreement has been defined, the master concession agreement is still being negotiated. This project faces two major risks. The first is the lack of a baseload traffic needed to cover the capital costs (about US$80 million). The agreement requires that no more than half the cargo be liquid bulk but proponents are having difficulty attracting clients which handle large volumes of dry cargo.[2] The proponents are now trying to strike a deal with British Gas to establish an import facility with pipeline connections to the northwest. The other risk is the lack of land connections. The site lacks a road connection and the rail connection will require upgrading of 290 km of line.

Because of these risks, financing for the project remains problematic. Originally, Overseas Economic Cooperation Fund funding was to be provided for a shipwrecking facility but this has been separated from the project. The International Finance Corporation was considering financing the concession but has since backed away from the deal. The joint venture is planning to issue stock of which 49 percent is to be sold to the public. In order to encourage commercial lenders, the state government has agreed to step-in provisions and to allow subletting of the land. It has also given the proponent considerable tax incentives including a tax holiday for the first five years and a partial exclusion during the next five years. Finally, it has agreed to subordinate its claims to those of the proponent's lender.

The Adani port is a more financially sound project. It has been in planning for some three and a half years and the engineering design has included a number of foreign consultancies. The port is being developed to handle the owner's cargo which includes grain imports, liquid bulk and coal for the IPP generating stations with total capacity of up to 500 MW. Together, these will provide a substantial baseload traffic. In order to provide year round operation, the proponent will construct a floating breakwater from stationary barges.[3] The proponents have opted for relatively simple pier structures to minimize development costs.

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[2] This provision was included to prevent the port from being simply a POL facility

[3] This structure, although carefully engineered, has not yet been proven to be effective, however, the level of investment is limited and the port can continue to operate for 10 months in the year even if it is not effective. Thus, it would be able to serve charter vessels but not scheduled services.

Although the total cost for the port is estimated to be US$350 million, the initial investment will be much smaller. It includes a pier for mixed use and a 52 km rail line which is estimated to cost US$50 million. If successful, the proponent has plans for construction of a 1,100 meter wharf for container and bulk cargo. The return on the initial phase includes the savings in transport costs for the owner's cargo which are sufficient to justify the project. The proponent has already lined up US$50 million in financing from IFCI.[4] The state governments will provide the land under lease, while the private sector will construct the port under a build-own-operate-transfer arrangement.

Other attempts to establish private ports have been less successful. Maharashtra State was unable to attract interest in seven minor ports (Adewadi, Dighi, Vijaydurg, Ganeshgule, Redi, Jaigad, and Anjanvel) that were put up for bid and P&O's counter proposal to develop a terminal at Vadhavan rather than Adewadi had environmental problems. Although these projects each have a development project report (appraisal report) prepared by local and international consultants, the analyses are lacking in rigor. They do not include physical data and tend to rely on optimistic and poorly justified traffic forecasts.

Efforts to establish private terminals in the major ports are expected to continue but slowly and on a piecemeal basis. Difficulties with labor and the unwillingness of the Port Trusts to cede power will ensure that this is both a lengthy and contentious process. Nevertheless, this process will continue and is likely to accelerate for several reasons. First, the large amount of port investment required, estimated at US$11.3 billion over the current five year plan (1998-2002) and the changing priorities for shrinking federal and state budgets. Second, the gradual improvement in inland logistics with the growth of Concor rail operations and the introduction of new, more powerful tractor-tractors. Third, growth in volume which will create greater interest in direct calls and will cause greater congestion at the existing facilities. The fourth is the difficulty of providing internal funding. In the past, capital investment has been funded through loans from the federal government or from other more profitable Port Trusts. For example, the development of the bulk port of Ennore is being funded through loans from ADB and the Madras Port Trust. However, many of the ports are experiencing financial difficulties and several are in technical default.[5]

Future investments in private terminals and ports are likely to be constrained by the availability of funding. The lack of long-term capital markets and real interest rates of more than 10 percent will limit the financially justifiable investments to ports, which have a large baseload traffic. This implies either expansion of existing facilities, or endorsing the bulk terminals having long-term agreements with cargo owners or multi-purpose ports that offer significant savings to shipping lines and are protected from direct competition.

Corporatization of the Port Trusts is needed to limit political influence and to establish a more commercial operation. However, this will require a number of changes. First, it would require a change in the legislation establishing the Major Port Trusts. Second, it would make the ports liable for corporate tax, something they are loath to incur. Third, it would make the management legally liable for its actions while taking away its civil service protection. Fourth,

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[4] These are funds provided from an ADB loan on-lent for 12 years including a two years grace period at a 300 basis points premium

[5] At the end of 1995, the ports of Cochin, JNPT, Paradip, Calcutta, Visakhapatnam, and Cochin were technically in default on government loans.

port labor is likely to resist any change that would reduce their power.[6] The new port of Ennore is expected to be the first to corporatize because it does not have any of these constraints. Other major ports that might introduce corporatization, if the necessary changes were introduced into the MPTA, are JNPT, Chennai and Tuticorin.

B. Thailand

The port system of Thailand is nominally under the control of the national port authority, Port Authority of Thailand (PAT). The authority operates the principal port, Klong Toey, located in Bangkok. It also has control over the new port of Laem Chabang but does not operate it. The other major seaports, Songkla and Phuket, are under the control of the Harbor Department as are most of the river ports. The Government is currently developing a broad plan for privatization of the SOEs. For the Authority, this is expected to begin with separation of the regulatory function and the operating responsibilities. The former would remain with the Government, while the latter would be transferred to separate operating companies for each of the major ports. This restructuring would require a change in the Port Act of 1951. The timetable for this transition is unclear. Meanwhile, the Ministry of Communications has commissioned a study on the reorganization of the port sector. It has not yet been released, but its preliminary recommendations are to create subsidiaries for each port and for dredging and towage rather than to corporatize the authority.

The profitability of the Port Authorities together with their entrenched bureaucracies will make them difficult agencies to reform, especially for the national government, which tends to be short-lived. The Port Authority has a long history of corruption and inefficiency which has become more important following the development of the port of Laem Chabang.

The principal port, Klong Toey, has been infamous for the high cost of delay to its users for the last three decades.[7] These delays include not only the congestion at the berth and in the storage area but also the long passage up Chao Phya River and the land access. The seriousness of the congestion has been reduced through the efforts of the PAT to modernize the East Quay where containers are handled and to grant preferential berthing to five major shipping lines which use the port. The available storage area for containers is still limited, but the land side congestion has been reduced by the extension of the Bangkok expressway to the port and by the recession which has reduced the number of vehicles on the Street.

Despite Bangkok port's poor performance, the traffic through Bangkok has grown rapidly in parallel with the growth of the economy. The Government addressed this problem after more than 20 years by developing a reliever port at Laem Chabang. Prior to that, it allowed private container terminals to be established, but then limited their annual throughput. Initially, they were limited to a single berth and to between 50,000 and 75,000 twenty-foot equivalent units (TEU) but some have since been increased up to 10,000 TEU per month. Because the terminal sites were located on the other side of the river, and therefore outside of the city, and because they were limited by the available land as well as their own willingness to invest, these facilities have never reached their capacity of 640,000 TEU.

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[6] The stevedoring is private but the longshoring is performed by port labor

[7] Beginning with reference to its congestion problems in 1960's articles on queuing delays. Recent efforts to upgrade the facilities and services combined with the downturn in the economy have largely alleviated the problem but the container operations remain well below industry standards.

In order to reduce port congestion in Bangkok, the Government placed a limit on the volume of containers handled in Bangkok. While this target was set at 1.0-1.1 million TEU, the port has handled up to 1.4 million. It was not until Laem Chabang had resolved its initial problems of landside access and expanded the number of berths, that it was able to handle a significant share of the containers. Now that it has achieved critical mass, all of the larger lines have relocated there. Bangkok now serves only six feeder lines and handles only about 1.1 million TEU. This will be the first year that the container volume in Laem Chabang will exceed that of Bangkok.

The development of a reliever port for Bangkok was proposed more than twenty years ago. However, political in-fighting with regard to which site would be chosen from among those owned by different groups within the Government, delayed the start of construction until 1987. The port was intended to be an operating port but has gradually evolved into a landlord port. The PAT built the first basin, with one side for general cargo and the other for containers, at a cost of approximately US$100 million. The PAT operates the general cargo facility berths but the container berths were leased out as five multiple berth terminals. PAT operated the first two terminals, B1 and B2, but then gave out 12 year management contracts to Terminal Import & Export Performance Service Co., Ltd. and Eastern Sea Laem Chabang Terminals for the next two terminals, B3 and B4. The former was a joint venture, including a trading company, Marubeni and Kamigumi. The latter a joint venture, including the Japanese shipping lines, Nippon Yusen Kaisha and Mitsui OSK. These arrangements had problems with accountability and flexibility.

Since the use of PAT labor and equipment at B1 and B2 led to inefficient operations, the Laem Chabang Port Authority absorbed the labor into its administration and allowed private labor to operate the terminals. B1 was taken over by Bangkok Modern Terminals, which also operates a river terminal. B2 was turned over to Evergreen, which negotiated for a straight capital lease. This led the operators of B3 and B4 to renegotiate their agreements as capital leases. Eventually, Bi was also converted to a capital lease. The last terminal, B5, also involved a capital lease but was different because the terminal operator had to fill in the terminal, construct the wharf and procure the ship-to-shore cranes. Each agreement is a 30 year lease with a mixture of a fixed rental and a royalty based on TEU. The rates are increased at a fixed rate each year.

The first basin, which was constructed with Overseas Economic Cooperation Fund funds, is now approaching capacity.[8] The second basin was to be developed with government funds and a contract was awarded to the local construction company, Italian Thai. However, there was considerably controversy regarding the amount of contract and the government no longer has funds for this investment. Hong Kong International Terminals proposed to develop the second basin in return for a long-term lease of the wharves in the basin, but the Laem Chabang Port Authority rejected this proposal because of the potential for monopoly. It is now proposed to build the basin in phases with soft loans. The first two-berth terminal has already been bid, with the Laem Chabang Port Authority requiring the winner to provide all equipment and to pay a US$45 million up-front payment. Nearly all of the existing terminal operators are expected to bid for this terminal.

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[8] Although the operators of the first four terminals are suffering from berth congestion, these terminals should be able to handle about 2.0 million TEU versus current traffic of 1.3 million.

The other seaports in Thailand are the southern ports of Phuket and Songkla. The location of these ports far from Bangkok and near to Penang has limited their growth in traffic. In 1997, Songkla handled 0.9 million tons which included 70,000 TEU over 510 meters of berth. The port serves feeder ships operated by RCL, Straits Shipping, and Cosco. These were constructed by the Harbor Department and then transferred to the Ministry of Finance. Although the PAT sits on the committee which overseas the ports, it has not had any direct involvement in their development. The ports were concessioned to a private company in 1988 with a five+five year capital lease for which the concessionaire pays a fixed rental and 45 percent of the gross revenue above 100 million Baht.

The Harbor Department has proposed expanding both ports under the next concession. This would include the development of a passenger terminal in Phuket and a container terminal in Songkla. As part of the new concession, responsibility for dredging would be transferred to the concessionaire. It has not been decided whether the construction would be funded by government or by the concessionaire under a build-transfer-operate arrangement. Although the existing concession has been profitable, it is unclear whether this would continue to be so if the concessionaire must fund the capital expansion and pay for the annual dredging of some 600 thousand cubic meters (cost about US$0.8 million)

In addition to the public ports, there are a number of private ports for handling specialized cargos. Siam seaport, located below Laem Chabang, is a bulk port financed largely by sugar interests and operated by the Siam Seaport Terminal and Warehousing company. Mab Ta Phut is a private bulk port on the Eastern Seaboard. It recently completed a second phase US$80 million BOT agreement with a consortium of Siam Cement and National Fertilizer investing.

EXPERIENCES IN OTHER COUNTRIES

The countries examined for this report have applied a wide range of strategies to increase the participation of the private sector in the port sector. This diversity results, in part, from a variety of government objectives in promoting private sector participation (PSP). These strategies can be grouped into the following six broad categories as follows:

- Liquidation of public assets to reduce government deficits.
- Generate finance for public infrastructure.
- Reduce problems with labor intransigence.
- Reduce the size of government.
- Improve operational efficiency.
- Commercialize the management of ports and develop new markets.

There are two complementary objectives that are often included in the formulation of these strategies; these are:

- Pursue a broad political program of privatization.

- Transfer profitable assets to politically well-connected interests.

The approaches that have been employed include:

- Decentralization and corporatization of port management.
- Conversion from operating port to landlord port.
- Privatization of individual port services.
- Joint venture efforts with private terminal operators.
- Terminal leases and concession arrangements to port users or third parties.
- Complete privatization of port assets.

A. Australia

The Australian ports have been converted from departments of the State Maritime Boards to publicly-owned corporations. The conversion began in 1994 in Queensland. This was followed by New South Wales, with the corporatization of the container port of Sydney, Newcastle, the country's largest bulk port, and Port Kembla in 1996. In the same year, the Melbourne Port Corporation was formed after a long negotiation because of political problems and the complex nature of the Port Authority. The corporation manages the port's container facilities, which have been transferred to it by the government. Plans to sell off the Port of Melbourne were scrapped because of lack of interest. Smaller ports, such as Geelong and Portland, were sold to private interests. The port corporations are government-owned, with government-appointed boards and dividends paid to the government, but are operated as landlord ports.

The cargo handling was in the private sector prior to corporatization. Break bulk cargos are handled by a large number of stevedoring companies, but container handling is controlled by two large companies, P&O Ports and Patrick Stevedoring. These companies invest in equipment and, in the case of containers, the superstructure of the terminals.

Table A4.1: Objectives of Program to Increase PSP in the Port Sector

	Downsize Bureaucracy	Finance Deficit	Finance Facilities	Improve Efficiency	Labor Problems	Commercialize Management	Widen Share Ownership
Australia					X	X	
France					X		
New Zealand					X	X	
United Kingdom (UK)		X		X	X[a]		X
United States (US)			X	X	X		
People's Republic of China (PRC)			X	X		X	
Hong Kong, China			X			X	
India		X	X	X			
Indonesia			X				
Korea, Rep. of			X				
Malaysia	X		X				X
Pakistan			X	X		X	
Philippines			X	X			
Singapore			X				X
Sri Lanka			X		X		
Taipei,China					X		
Thailand			X	X	X		
VietNam			X	X		X	

[a] *re-enforces earlier reforms*

Table A4.2: Approaches Used to Increase PSP

	Decentralize	Corporatize	Partial Privatization		Landlord Ports		Capitalization	Sell Assets
			Services	Joint Venture	Leases	Concessions	Share Offering	
Australia		X			X			
France			X		X			
New Zealand		X	X					
UK			X				X	X
US			X		X	X		
PRC	X	X		X				
Hong Kong, China						X		X[a]
India						X		
Indonesia			X	X		X		
Korea,Rep.of		X	X		X			
Malaysia		X		X		X	X	
Pakistan					X	X		
Philippines			X			X		
Singapore		X					X	
Sri Lanka				X		X		
Taipei,China			X		X			
Thailand					X	X		
VietNam			X					

a sale of development rights

The primary problem that the corporatization was meant to address was the inefficiency of the ports. However, this is due largely to labor problems. The port workers have a strong union resulting in restrictive working rules, overstaffing, and labor action which have hurt productivity. The government attempted to resolve these problems through a labor reform bill designed to reduce the power of the unions. This led to a confrontation between Patrick Stevedoring and the Maritime Union of Australia, which created considerable havoc in the port sector in the spring of 1998. Patrick eventually gave in to the unions, despite strong Government support, but was able to obtain enterprise agreements. The subsequent job cuts have resulted in a significant increase in productivity and it appears that P&O will now follow Patrick's lead.

Efforts to reform the port sector appear to have stalled. The two major port corporations, Sydney Ports Corporation and the Port Corporation of Queensland, remain under Government ownership. P&O and Patrick continue to control most of the country's stevedoring services. However, both Sealand and Orient Overseas Container Line have both been able to establish dedicated container terminals so the reform of the sector may eventually go ahead.

B. France

The ports of France have allowed only a limited introduction of private sector involvement. The Government continues to be responsible for developing and managing port infrastructure. The Chambers of Commerce, which represents a combination of public and private interests, has played an important role in developing and managing port superstructure since the early 1800's. The major ports remain in the public sector and continue to control operations and provide most of the cargo-handling equipment.

The cargo-handling labor is provided by private stevedoring companies. The Government introduced dock labor reform in 1992. Following the reform in 1992, the stevedores were integrated with the dockers who were port employees through the mechanism of unitized gangs. While this initially created serious problems, it has, in the long-run, allowed the ports to recapture some of the market lost to other Northern European ports.

Although France has been slow to allow greater private sector involvement, some changes have been occurring. Recently Le Havre gave a concession for its new container terminal to a private stevedoring company, although the gantry cranes continue to be maintained and operated by the port employees. Also, the terminal serving the channel ferry is operated by the steamship line. There are some private bulk terminals as well. The largest are the grain terminals in Rouen, the largest grain port in Europe. These are operated by a mix of the Chamber of Commerce, Chamber of Agriculture, and autonomous port and private companies.

C. Germany

The situation in Germany is similar to that in France. The municipality owns the port. According to legislation, the city is responsible for development, planning, construction and maintenance of infrastructure including quay walls, renting out of the port land and traffic surveillance. The private sector assumes responsibility for construction of aprons and superstructure, all operations, marketing and public relations. In the case of Hamburg, the local legislature requires that there be internal competition among private sector service providers. It also separates responsibility for infrastructure development between the city and state governments, with the former developing quay walls and leasing them out and the latter developing the fairway, basins and reclamation areas.

D. Italy

The terminals in Southern Italy have been converted to private terminals following passage of the 1994 Reform Law 84, which removed cargo-handling including stevedores and other workers from port authority. The current configuration provides a vision of the future in which terminal concessions are established by one group and then the ownership is shared among a changing group of partners. In Trieste, 18 of the 20 terminals have been converted to private operation. Among these are Pier VII which was concessioned to Europe Combined Terminals for a period of 30 years. In Venice, the container terminal has been owned since 1988 by Vencon, a private limited company. The company sold 53 percent of its shares to Sinport, which also manages the Voltri Terminal Europe in Genoa. Subsequently, PSA bought 60 percent of Sinport. The other container terminal in Genoa, Southern European Container hub, is owned by Grupo Investimenti Portuali, in which P&O has a 20 percent stake. The same group has a 35 year concession for a trans-shipment hub in Cagliari. Meanwhile, Evergreen has been looking to establish a hub in Taranto. The most successful port is Gioia laura, which was established in 1995 and by 1998 has a volume exceeding 2 million twenty-foot equivalent units (TEU). This was started by Contship Italia which also operators the La Spezia container terminal.

E. New Zealand

New Zealand has been one of the most successful countries in achieving port reform. This was accomplished through a combination of corporatization, labor reform, and public offerings. The ports suffered from a monopolistic labor regime characterized by aver-manning and other restrictive practices. These problems were resolved during the 1980s. Efforts to reform labor began with the phasing out of the tradition pool employment system and the regulation by the Waterfront Industry Commission. In 1989, 44 percent of the workforce was made redundant, with the shipping lines picking up the tab.

Up until 1988, the ports were under the control of locally elected autonomous Harbor Boards, which reported to a National Part Authority. In that year, the New Zealand Port Companies was farmed and the Harbour Boards were required to establish port companies to operate their commercial facilities. This occurred after two years of consultation between various stakeholders in port activities. Initially, the shares in these companies were 100 percent owned by the Boards but they were allowed to sell up to 49 percent. This avenue of privatization was only partially successful. Currently, five ports, including Auckland, are listed on the stock exchange - most of the shares are owned by the regional authorities. As a result, the pattern of over-investment in port facilities and equipment continues. Nevertheless, some concessioning of terminals has begun.

F. United Kingdom

The reform of the UK port system took place as part of the general privatization initiatives of the Thatcher Government, which led to the Port Act of 1991. The UK has a long history of private terminals, beginning in the 1800’s. While most private ports were relatively small, dedicated facilities for bulk cargos, they also included Southampton, Felixstowe Port, Mersey Docks, the Tees and Cardiff. Most of the common-user ports were placed under the control of either independent port authorities, governed by commercial objectives, and port trusts, operating as non-profit organizations. This system was meant to ensure public access and to avoid monopolistic behavior. However, the ports suffered from decreasing efficiency and

increasing labor tension during the latter half of the century and lost opportunities in the transshipment business to competing ports in Northern Europe.

The Government sought to resolve these problems first by resolving the labor problem. During the 1980's the Dock Labor Scheme, under which all cargo-handlers were non-casual and were regulated by the state, was ended. Then, in the 1990's, the ports were sold off (full privatization). This privatization was accomplished in two stages: first, the transfer of the port's rights and liabilities to a port authority that acted as a limited liability company under the Companies Act and second, the sale of these companies to holding companies whose shares are publicly traded. The privatization of the Trust ports required the creation of a temporary (and very short-lived) project vehicle into which the assets could be dumped prior to being sold, rather than the creation of port authorities. There was a debate at the time as to whether the Government had the right to privatize the Trust ports as it was not the owner of the assets, and the corporate vehicle was one way of getting around that particular legal problem in a way which protected the buyer.

In 1993, five trust ports were privatized. They were sold through competitive bidding, but the financial bid had to be accompanied by a Business Plan, and the Government was not obliged to accept the highest offer. It did so in four of the five cases (Forth, Clyde, Tilbury, Medway) which were won by Management/Employee Buyouts. In the fifth case (Tees & Hartlepool) the Management/ Employee Buyouts again was the highest bid, but was rejected by the Government. There were other bidders for all five ports, but the response was lukewarm because of the Government's stated intention to give preference to Management/Employee Buyouts if they came within 5-10 percent of the highest bid. Potential bidders were also discouraged by the speed with which the bidding process was carried out, uncertainty about how the unions would respond to new owners, and fears about a potential price war between the newly privatized ports. Today, only a few small public ports remain. Although these ports are private, their activities are still governed by local acts of parliament, which define what activities may or may no be undertaken on port land.

The process of port privatization has been the subject of considerable controversy because of difficulties in the process of bidding out the ports. One port was transferred to the management without competitive bidding and then 18 months later sold to Mersey Dock and Harbor Company at considerable profit for the management. MDHC has bid for other ports. Felixstowe, after being controlled by P&O, was bought out by Hutchinson Whampoa, which subsequently purchased Southwick and Thamesport.

Thamesport initially had a competitive advantage in terms of costs because it was not a part of the National Dock Labor Scheme. When this was taken away, the port was privatized through a leveraged management buyout. When the management organization, Maritime Transport Ltd, failed to improve the situation in the port and defaulted on their loans, the port was taken over by their bankers. This occurred in 1993 and two years later the Rutland Trust purchased the port from the bank, keeping in place the management. They invested in the port and improved its performance. Then, in 1998, Hutchinson Whampoa purchased the port and it continues to thrive.

The Port Act also created Associated British Ports which became a holding company for the assets of the British Transport Dock Board. The Associated British Ports is a wholly-owned subsidiary of a larger holding company that is listed on the London exchange. The Associated British Ports has a portfolio of operating and landlord ports and also derives revenues from the redevelopment of redundant dockland and continues to exercise considerable control over the

activities in the ports it owns. It derives a significant financial benefit from a large asset base that it received and has been partially shielded from competition.

G. United States

Private terminals first appeared in the US in the late 1800's and by the early 1900's they were common in New York, Boston, Baltimore, Seattle, etc. There was strong opposition to these private ports as a result of the monopoly practices by both the railroads and municipalities that controlled the ports. In the late 1800's and early 1900's, port authorities were established. These were not meant to operate the ports but rather to develop the port and regulate private sector activity within the port. Currently, the US port system is primarily a mix of public landlord ports and privately operated terminals. While there are some operating ports, such as the Virginia Ports Authority and the Alabama State Docks, these tend to be the exception.

H. People's Republic of China (PRC)

Port reform in PRC has been accomplished through the mechanism of joint ventures. The ports were formally under the control of the Ministry of Communications but in 1984, the major ports were placed under the control of the municipal governments. These ports were controlled by the Bureaus in the municipal or provincial government. Within these bureaus are a number of specialized organizations providing specific port services. Since that time, the larger ports have been corporatized as financially autonomous port authorities but still under the jurisdiction of the municipal government. The operations of the individual port terminals are often assigned to management companies. These companies are state-owned enterprises and are often nothing more than wholly-owned subsidies of the authorities.

The port authorities frequently take part in joint venture agreements with international companies. Under the 1985 regulations, the foreign companies were allowed to own a majority share in the joint ventures, but in 1994 this was restricted to a minority share.[1] At the same time, the period of the operating agreements was limited, generally to 20 years. For the major container terminals, joint ventures have been established between Hutchinson International Port Holdings (holding company for Hong Kong International Terminals (HIT)) and Shanghai Port Authority, PSA and Dalian Port Authority, Sealand and Tianjin Port Authority and P&O and Shekou Port Authority.[2] These joint ventures lease the land and facilities from the authority and invest in equipment and new facilities.[3]

In some cases these joint ventures have been able to establish a monopoly in the port and considerable control over the ports within the region. As an example, Shanghai Port Authority and Hutchinson Whampoa Ltd. own and operate the Shanghai container facilities through a terminal agreement that guarantees nearly all of the container must be handled through their facilities.[4] This has led to the development of new ports upstream in order to provide competition. At the same time, HIT also operates one of the three container terminals in

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[1] For example, HIT has a 70 percent ownership of Yantian Container terminal

[2] The Shekou Container terminal joint venture also includes Cosco, Swire, and China Merchants.

[3] For example, Dalian Container Terminal Co. and PSA propose to spend an estimated US$500 million to develop Dayaowan terminal.

[4] The joint venture also has the right to develop Wai Gao Qiao(Pudong) and Jin Shan Zui.

Shenzen, the Yantian Container Terminal,[5] as well as other terminals in Gaolan, Jiuzhou, and Jiangmen. The Port of Singapore is operating the Dalian container terminal in joint venture with the Dalian Port Authority.

The joint venture agreements allow the terminals to set fees, which are different from the central tariffs established by the Ministry of Communications. In the case of Shanghai, the tariffs are about 50 percent higher.[6]

The government has considered privatization of the ports but has not acted. One of its problems is whether to float ports as single companies or to break them up into competing terminals and float them as separate companies

I. Hong Kong, China

The port of Hong Kong, China is comprised of a number of private terminals. Cargo is transferred at the terminals as well as at public quays and in the harbor. The greatest problem faced by the port is the lack of land on which to construct new terminals. The container terminals are concessioned as water and land rights under long-term lease agreements (formerly 99 years). The operator is responsible for filling in the area, developing the infrastructure and superstructure and providing equipment.

There are currently eight container terminals in Hong Kong, China which handle about 12 million twenty-foot equivalent units (TEU). In addition, about three million TEU are transferred from between the smaller feeder vessels and barges in the harbor using floating cranes.

The development of the port is under the control of Hong Kong Port Development Board (PDB) a semi-government entity established in 1990. The PDB provides a forum in which all interested parties (but mainly the private terminal operators) can talk to the Government. The Marine Department has always been responsible for technical supervision of the harbor (Vessel Tracking Management System, navigational aids, pollution control, etc.) but the development of the container terminals has been led by two government departments - Economic Services and Land.

New sites for terminals are offered in response to market demand. The operators bid for the right to fill in the site and develop the terminal. The bidding is in one of two forms, a private treaty grant or and open public tender. Because of the rapid growth in traffic, high land prices and the time required to complete the bidding process and to develop the terminal, Hong Kong, China has suffered a chronic shortage of berth space. This has meant that the terminal operators have had to constantly improve berth productivity, consistently achieving the highest berth throughput in the world.

The development of the initial site at Kwai Chung was through private treaty grant under which three terminals were developed, Hong Kong International, operated by Hutchinson

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[5] This is partly a defensive strategy as Yantian represents one of the major competitive threats to HIT's operations in nearby Hong Kong, China.

[6] This is not unreasonable given that the Ministry of Communications tariffs are below the long-run marginal cost for a container terminal.

Whampoa, Modern Terminals Limited operated by a consortium of lines, and Asia Container Terminals, operated by Sealand. For subsequent developments, the Harbor Board favored the use of public tender. However, this approach ran into trouble with the development of Terminal 7. The winner of the public auction, HIT, offered twice as much as the other two competitors. This had the effect of giving HIT a dominant position in the market but also raising the cost of operations. The result was an increase in container handling charges which reduced Hong Kong, China's market share of trans-shipment cargo (relative to Singapore and Kaohsiung). This loss in market share was made up by the dramatic increase in PRC cargo for which Hong Kong, China became a gateway.

HIT also won the bidding for Terminal 8 but this time in joint venture with Cosco. Because of their limited space, the Modern Terminal Limited and Sealand both increased productivity dramatically. Modern Terminal Limited by replacing straddle carriers with RTGs and Sealand by tighter logistics and better labor allocation. However, demand continued to outpace capacity and the PDB offered Terminal 9. Since the cost for terminal development had risen so high, other potential bidders were effectively shut out of the market. Therefore, the government focused on allocating capacity between the three operators. To do this it again used the private treaty grant in order to avoid having HIT dominate the market.

The development of Terminal 9 involved a lengthy negotiation between the Government and the terminal operators, with the PRC Government also weighing in. The private treaty approach was used because the Government wanted to use Terminal 9 as the basis for rationalizing existing operations, to include some free assets such as a new Tsing Yi bridge, removal of contaminated spoil, etc., and to avoid the very high prices paid for Terminal 7. As originally proposed, the terminal was to have two berths for HIT and two for the Sealand-Tsingyi joint venture. Four years after Terminal 9 was proposed, it was decided to give HIT two berths plus a barge berth and Modern Terminals Limited two berths, while Modern Terminals Limited would give two of its berths to Sealand-Tsingyi. This was meant to maintain competition in the market while rationalizing the use of existing terminals so that each operator would have contiguous berths.

J. Indonesia

The ports in Indonesia are owned by the Government. Over the past twenty years, the port system has been divided into five groups, each with a major port and a number of secondary and tertiary ports. Each of these was converted into an authority and then a Government-owned corporation. While these reforms have improved the performance of the ports, they continue to suffer from low productivity and under-investment.[7] in recent years, the government has attempted to introduce private sector investment into the port. This initiative has suffered from two problems: the determination of the government corporations to maintain control and the predominance of crony capitalism. Most of Indonesia's "privatizations" have been either an Initial Public Offering of a small portion of the shares in a government corporation or concession arrangement, involving well-connected individuals. Since the existing ports enjoy substantial monopoly power, considerable regulatory structures would be required if these were to be transferred to private control.

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[7] The port corporations have the authority to issue bonds to fund infrastructure investment but have not used this authority. PT Pelindo II proposed to issue US$1bn in shares overseas to fund expansion of Tanjong Priok but decided not to.

While cargo-handling for general cargo is performed by private stevedoring companies, in most ports[8] container handling remains under the control of the port corporations and managed by its subsidiaries. The exceptions are the new terminal in Tanjong Prior, described below, and the concessions given for the expansion of the container terminal at Surabaya.

At present, there are four major private sector investments in new container handling equipment. The first is in the major port of Tanjong Priok where a new container terminal was established under a BOT agreement. This concession was awarded to a company headed by one of the Suharto family. It involved a joint venture with the Port Corporation allowing it to draw on the manpower of the Port Corporation and providing significant revenue guarantees to the private company. It is likely that the next government will unwind this agreement. At present, six bidders have pre-qualified for two concessions for the container terminals in Tanjong Priok. These are being structured as joint ventures with the government. The prequalified firms include: International Container Terminal Services, Inc (ICTSI), P&O, and Stevedoring Services of America. It remains to be seen whether the current government will be able to complete these tenders prior to elections and whether they will be upheld if a new government is elected.

The second is a container terminal to be established at the Port of Cigading which is owned by Krakatoa steel. The joint venture undertaking this investment includes the steel company, PT Krakatau Bander Samudera, the Singapore port corporation, together with Sembawang and the Salim group. The latter is owned by a close associate of the President. This port has the advantage of an existing site and good road and rail access.

The third is a new container port to be developed at a greenfield site near Bojonogera. The terminal is to be developed by a joint venture involving Hutchinson Port Holdings, the port corporation of Tanjong Priok, and BJH, an investment company controlled by one of the Suharto family. This project has the disadvantage that it will compete against the two other terminals which are much further along in their development, and it lacks good land access.

The fourth project is near Surabaya, at the proposed site for the new port of Gresik. This is to be developed by a joint venture including the port corporation, PSA, and a company-owned by another member of the Suharto family.

K. Japan

All of the ports in Japan are under the control of public port authorities established by the city or prefecture. The development of the ports and the setting of tariffs are controlled by the Ministry of Transport. There is a National Ports Council which reviews all development plans. The infrastructure is financed by a combination of central and local government grants. While the Japanese ports have provided reasonably efficient services, they have suffered from high costs and restrictive work practices. The problem of labor premiums for Sunday work, the requirements for consultation on any changes in vessel activity and other structural impediments have both increased costs and restricted competition. These problems led to a major confrontation with the US Federal Maritime Commission and to a set of proposed reforms.

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[8] Surabaya Port Corporation recently took control over the general cargo operations complaining that the private stevedoring companies were inefficient and had not invested in sufficient equipment.

The ports also allow private terminals for handling specialized cargos. They also lease backup area to cargo-handling companies. For the container terminals, they have introduced preferential berth agreements as part of the leases for backup area. The authorities have continued their involvement in the container terminal operations by establishing terminal management companies.

Port operations are performed by private stevedoring companies, many of which are owned by the major shipping lines. Some of the local container terminal operators have expanded overseas, as is the case of Mitsui OSK, Nippon Yusen Kaisha, which also operates in Laem Chabang, Kaohsiung and K Line, which is a partner in International Transport Services in Long Beach and Tacoma. Private companies also provide the other port services including pilotage, towage, warehousing and cargo-handling equipment.

The possibility for direct private financing of common-user terminals is precluded under current laws.

L. Korea

The Korean ports remain in the public sector. The Ministry of Maritime Affairs and Fisheries is responsible for construction of basic port infrastructure. The individual ports are under the control of Port Authorities, which act as landlords. The container terminals are developed by a separate authority, the Korean Container Terminal Authority (KCTA). Under this system, the public ports have been able to provide a highly efficient port operation. However, in recent years, it has had difficulty in providing sufficient infrastructure to meet demand, especially in the main port of Busan. As a result, about one third of the containers handled in 1996 and 1997 went across conventional wharves.

The cargo-handling is undertaken by a mix of public and private companies. General cargo is handled by private stevedoring companies. In Busan, the leased container terminals are operated by a government corporation, Busan Container Terminal Operations Corporation, a private company with a 25 percent equity stake from KCTA, Pusan East Container Terminal, and a consortium of shipping lines.

The Government has continued to assume responsibility for financing new infrastructure, especially the development of Kwangyang Bay, a five-kilometre wharf with completely filled in backup area. In order to finance this investment, a mix of funding was used. For the first phase, the KCTA will cover 23 percent through self-financing and the rest through government grants (37 percent), government loans (four percent), commercial bank loans (one percent), and domestic bonds (21 percent). The latter were sold to shipping lines in exchange for leases of future berths in Kwangyang, as well as preferential leases for faciities in Busan.[9] For the second phase, the KCTA will use a mixture of self-financing, government grants, bonds issued in the Japanese market, and World Bank loans. The Government's investment is limited to basic infrastructure and the port users are expected to finance the superstructure and the equipment.

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[9] Local currency bonds with a life of 10 years, an initial grace period of five years, and an interest rate of six percent. These carry a government guarantee and were sold together with an exclusive 10-year lease for a berth in Busan and a Berth in Kwangyang. Bidders were limited to the large shipping companies.

M. Malaysia

The Malaysian ports were formally controlled Port Commissions and Authorities established under the Port Authorities Act in 1963. The intention was for these to be financially autonomous entities but the Government provided the funds for some of the initial development. The divestiture and reform process began with the Port Privatization Act of 1990, followed by concessioning of the Kelang Container Terminal in 1992. The Act allowed for private operators licensed by the authority to operate terminals but with continuing regulation of safety and tariffs by the port authority.

The Kelang container terminal concession was widely reported as a major privatization. It was, in fact, merely a transfer of assets and franchise for handling containers from the government to government corporations. The initial concession went to Kelang Container Terminal, a joint venture between the Kelang Port Authority, 49 percent and Konnas Terminal Kelang Sdn Bhd, 51 percent. The latter was composed of a Government container haulage company (Kontena Nasional) and minority participation by P&O Terminals. In 1992, 40 percent of the shares were transferred to the public including five percent to the employees and the remainder in an initial public offering.[10] The remaining port operations, including container berths not included in the original concession, were transferred to another company - Kelang Port Management, owned jointly by Government companies (Kontena Nasional, Malaysian Intl. Shipping Corporation), a provincial government (Selangor) and an investment fund (Pilgrim).

The growth in traffic through Kelang rapidly created demand for additional capacity and the Kelang Port Authority embarked on the construction of Westport. This was eventually bid out as a BOT with the understanding that the concessionaire would complete the construction and assume payments for the expenditures undertaken by the Kelang Port Authority. During the period of concessioning, Kelang Port Authority was converted from an authority to a corporation but remains a government-owned enterprise.

The other main ports in Malaysia have applied different approaches. Penang split its organization into a government owned landlord corporation and an operating company. The latter was converted to a limited liability company with private equity. Bintulu has applied a similar approach but a large portion of its traffic is under the control of a private company that produces natural gas and its derivatives. Both Bintulu and Johore split into a landlord authority and a government-owned operating company. It had proposed to issue shares in order to finance a new port but this was not undertaken.

N. Pakistan

The port system remains under the control of the Government and continues to suffer from labor problems and under-investment, but in the last few years private sector involvement has been increased and promises to offer significant gains in productivity. There are two major ports, Karachi and Qasim. Karachi is operated as a traditional port trust whereas Qasim is

[10] The initial public offering was through private placement arranged by the government and reduced KPA's share to 20 percent and Konnas Terminal Kelang Sdn Bhd's share to 40 percent. The Kelang Container Terminal benefited from the sale but its return was limited since all shares were placed at the offering price. The subsequent rapid increase in share price produced significant capital gains for those selected by the government to purchase the shares.

operated as a port authority. Both are owned by the government and are under the supervision of the Ministry of Communications.

Qasim has benefited from being newer with better infrastructure and a relatively low level of staffing. It has relied extensively on terminal concessions to provide bulk-handling services, including the chemical jetty and storage facility operated by a Dutch concern. There is also a privately operated oil terminal that has received partial funding from the International Finance Corporation. More recently, the Authority has entered into a concession agreement with P&O terminals to operate the Qasim International Container Terminal.

Karachi has a badly deteriorated infrastructure and is overstaffed with a management that has changed little over the last several decades. Despite its inefficiencies, the Karachi Port Trust remains one of the few state-owned enterprises with a positive cash flow. This cash flow is due, in part, to the failure to renew its facilities. The World Bank is currently participating in four studies to improve the situation in the port, including the redrafting of the port charter to permit more private sector involvement and an analysis of how to reduce excess labor and improve operational efficiency. The World Bank is also pushing for corporatization of some of the port activities, including the dredging fleet and the container freight station operation.

Meanwhile, the Karachi Port Trust has given a concession to American Presidents Line to construct a terminal. The American Presidents Line will supply ship-to-shore gantry cranes and will bring in ICTSI to operate the terminal. Together they propose to invest US$80 million in a BOT concession. Prior to this, the American Presidents Line had a preferential berth agreement equipped with its own mobile cranes. The Port of Karachi uses private stevedoring but the dock labor remains port employees. The transit sheds are leased to stevedoring companies. The port regulations allow for PSP in other port services but these have not been permitted. The government and the privatization commission are interested in increasing PSP.

O. Philippines

Nearly all of the large public ports in the Philippines are under the control of the Philippine Ports Authority. The exceptions are: Cebu, which has a separate port authority and the ports of San Fernando and Subic, which are part of local Free Trade Zones. The smaller ports are under the control of the Department of Transport and Communications or local governments. There are a large number of private ports but these are specialized facilities operated by cargo owners.

Perhaps East Asia's earliest effort to allow private sector involvement in common-user facilities occurred in 1987, when the Philippine Ports Authority established a 25-year concession for the Manila International Container Terminal. The initial concession agreement, granted under the Marcos government, failed, but was re-bid under the administration of former President Aquino and won by ICTSI (initially together with Sealand), which has operated it successfully for the last decade. Subsequently, a lease was granted to Asia Terminal International (together with P&O Terminals) for international container operations in South Harbor. The two now compete actively for international traffic with Asia Terminal International steadily increasing its market share.

Recently, the Philippine Ports Authority granted a concession to a joint venture between Asia Terminal Int'l and Aries Arrastre Services for a cargo-handling franchise in the port of Batangas. It has also given concessions for grain terminals in Marivelles and Manila, although the latter has been delayed awaiting the outcome of the current economic turmoil. ICTSI has also proposed, together with Marubeni trading company and a local stevedoring company, to

develop a private container terminal in Batangas. A similar arrangement was proposed by a joint venture of a construction firm (FF Cruz) and a terminal operator in Cebu, but this was never realized.

In 1994, the Government issued Order 212 to promote private sector activity in the port sector. This included allowing private ports to compete for third party cargo. This has had relatively little impact because of the low public port tariffs in the subsidized regional ports. Cargo-handling is provided by private Arrastre companies, but the Philippine Ports Authority licenses only a few companies to provide the services in each port. Attempts to open up cargo-handling to competing firms, as part of Order 212, were stymied by the efforts of the existing licensees.

Many of the port services in Manila have been licensed to private providers. However, recent efforts by the Philippine Ports Authority to attract private investors into joint ventures and concession arrangements for new port investments have met with lukewarm interest. However, it is expected that more concession agreements will be implemented. In addition, it is likely that more of the large ports will follow the example of Cebu and establish themselves as independent port authorities acting as landlords.

P. Singapore

The Port of Singapore is the largest and most efficient public operating port in the world. It has benefited from two decades of strong management efforts to increase labor productivity and berth throughput. While some of the cargo-handling is performed by private companies, the equipment operators in the container terminals are PSA employees. Despite its efficiency, reputation for quality services, profitability and timely investment in new capacity, the Government decided to privatize the port administration. In 1996, the Government created the Maritime and Port Authority of Singapore to take over regulatory responsibilities from the PSA. The chairman and board will continue to be appointed by the Government. The PSA was then converted to a corporation with plans developed to sell some of the corporation's stock through an Initial Public Offering, although the timing of this offering is unclear. The corporation has the same staff as the authority with the exception that the chairman is no longer appointed by the government.

Although the port has continued to be an operating port, it has made a number of accommodations to its users. It has allowed preferential berthing and leased out the backup area in general cargo berths. Although it would not lease its container facilities,[11] it did develop the concept of virtual terminals, which allowed the shipping lines to specify the type of services and equipment to be provided.

Q. Sri Lanka

The principal port of Sri Lanka, Colombo, has become the trans-shipment hub for much of the Indian and Pakistani container traffic. This public port, despite its success, remains overstaffed and has difficulty providing sufficient capacity. Recently, it has begun to look for private capital to provide much needed capacity.

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[11] They had earlier considered this, but felt that the leases would result in loss of throughput for its berths and therefore chose to continue operating its container facilities.

The Sri Lanka Port Authority (SLPA), which is under the Ministry of Shipping, Ports, Rehabilitation and Reconstruction, operates Colombo. The port of Colombo is an operating port. The Authority's employees provide cargo-handling services. The Authority also provides all the services to the vessel. The result is a staffing level of about 18,000 employees. The SLPA does permit the private sector to operate ODCYs. Despite its inefficiencies, the port has enjoyed a continuing increase in traffic, due in large part to its location on the major East-West trade route and the inefficiency of the other major ports of South Asia.

Due to rapid growth, the port has been unable to provide sufficient capacity and has recently suffered from congestion. The port has two container terminals, the main one is Jaya container terminal (eight ship-to-shore gantries). The smaller one, Queen Elizabeth Dock (three ship-to-shore gantries), is to be expanded to meet demand. In order to provide this additional capacity, the SLPA has entered into a joint venture with P&O Terminals and P&O shipping to rehabilitate, operate and expand the Queen Elizabeth Dock. This will be a 30-year BOT agreement brokered with the help of the Board of Investment. The negotiation for this investment was contentious because of conflicting objectives of SLPA and Board of Investment. The P&O investment in three new berths will be under the control of the Board of Investment, rather than the Ministry of Transport.

The negotiations for this agreement have been extremely problematic. The Port Authority has resisted the concession. The Ministry of Finance took a lead in the negotiations, including their UK-based legal counsel, however, the contract they developed was too one-sided in favor of Government. The contract was rejected by P&O's financial backers, which include Commonwealth Development Corporation, because it was not bankable. The contract is asset driven and focuses on a fixed investment schedule because the port badly needs additional capacity. It should have been possible to develop a simple agreement because the site is essentially new without labor problems or the need to allocate existing assets.

The initial agreement proposed to concession the Jaya Terminal, with the Elizabeth Docks to be concessioned later, but this was modified because of the increasing demand. The SLPA will continue to operate the Jaya Terminal but plans to form a corporation and bring in a private partner. A consultancy is underway to explore this possibility.

R. Taipei,China

The major ports of Taipei,China are landlord ports. While these ports have benefited from the strong growth in Taiwanese trade and added to this a substantial trans-shipment trade, they still suffer from problems with the cargo-handling labor.

The major ports were formerly controlled by the Harbor Bureaus of the municipalities in which they were located. Last year, the four major international ports, Kaoshiung, Keelungd, Hualien, and Taichung were transferred to the MOTC in an effort to coordinate the investment in expansion of these ports.

Kaoshiung and Keelung lease out the terminals to the major shipping lines and their consortium. Among these are the Taipei,China shipping companies and also Hyundai, Maersk, Hanjin, etc. The lessees are required to use the port's dockworkers. This labor organization is a separate group from the Harbor Bureau. A 1995 proposal for port privatization focused not on the ports but on the cargo-handling labor in an attempt to reduce the monopoly power of the dockworkers, which would be downsized and broken up into separate stevedoring companies.

Other efforts at privatization schemes include BOT concessions at Kaoshiung in which the private sector would provide the superstructure and equipment. In addition, P&O/Nedlloyd plans to construct its own terminal at Kaoshiung. In Keelung, a proposal has been made to establish a public private partnership for funding expansion of the port, which would include extension of the breakwater and wharves.

S. Viet Nam

Efforts to involve the private sector in the port activities in Viet Nam have focused on the use of joint ventures. These have had limited success because of difficulties between the local and foreign interests. The early joint venture efforts with HIT and ICTSI fell apart in 1995 because of disputes over the value of the equity of local joint venture partners. More recently, efforts have included the Viet Nam International Container Terminal in Ho Chi Minh City along Saigon River. This is to be developed by a joint venture of Neptune Orient Lines, Mitsui and two Viet Namese partners. Further, the Haiphong deep-sea port and industrial area is to be developed by AIG (the US and its Thai subsidiary) and Belgian Port engineering and development. Another deepwater container terminal with 500 meters of berth is planned for Vung Tau. This US$200 million investment would be funded by an international consortium including Evergreen (40 percent), Tredia (Malaysia - 30 percent), MMC (30 percent). The partners would then give five percent to their Viet Namese partner, Vinaline.

T. Brazil

The most recent Latin American country to pursue port reform is Brazil. It presents a useful point of reference because Brazil, like India, suffers from severe labor union problems and has extremely poor cargo-handling performance (far worse than India) in its major ports, especially Santos. The result is a box handling rate that exceeds US$500 and vessel queues that are typically two or more days. The impact of this inefficiency upon Brazil's economy is considerable and adds to other costs associated with a relatively high level of trade protection.

In 1997, the effort to concession the major terminals in Santos was undertaken as part of a broader program to reduce government's role in the economy. The Ministry established regulations that permitted private operators to select their own labor, whereas before they were required to use the union labor. However, the union is extremely strong and militant and the government has been unwilling to confront the unions directly. The government established a new labor management board but then failed to appoint independent members, resulting in most of the board being from the union. Under the terms of the concession, the operator was allowed to hire labor up to the amount required for efficient operation and to draw additional labor from the pool.

The Government also revised the law on the structure of the port so as to allow for increased PSP. However, the law created a relatively convoluted structure involving a port commission, a port operating company and a separate port administration without clear distinctions between their roles and responsibilities.

In Santos, a 25-year concession for the main container terminal, TECON, was bid out utilizing a live auction, presumably to improve transparency or increase the bid. There were problems with one of the bidders being disqualified and HIT withdrawing shortly before the bid. The winner of the bid was a consortium including pension funds, investment banks and a terminal operating company, Multi-terminal, which took a 10 percent position and, in return, will operate the port. This company has as its major shareholder, Transportes Fink, which also owns a majority of the major shipping line Transroll, as well as a participation in one of the

terminals in Rio de Janeiro. The terminal currently handles about 500,000 TEU on a 510-meter wharf equipped with five cranes and with 36 hectares. The winning bid was for an up-front fee of US$140 million and a total estimated cost of US$251 million. The bid includes the option for a 250-meter expansion of the wharf and an additional 12 hectares.

The concession contract requires the terminal operator to reduce the handling charges to US$150/box within two to three years. The current charges are about US$500/box, due to high stevedoring costs because of restrictive practices and a gang size about four times that actually required. The up-front cost included the pre-determined value of the equipment transferred to the concessionaire plus the additional amount bid in order to secure the concession. The total amount was determined by an open bidding process (a live auction in which the pre-qualified bidders submitted verbal bids) and is to be recovered from the existing traffic (approximately 500,000 TEU) and the future growth. The principal objective of the government in establishing a very high up-front cost and, by implication, a lower annual payment, is to address what is a growing financial debt crisis.

The concessionaire is having difficulty in reducing charges because of problems with rationalizing the labor. It is also unclear what incentives it has for reducing charges given that it must recover this large fee. At the same time, the concessionaire has little incentive to lower the price prior to the end of the five year period, since this would reduce their profit. A smaller terminal, T37, has also been concessioned but for a much smaller amount because the terminal did not have any container handling equipment, very little backup area and poor road access.

The port of Rio is attempting to develop a new facility at Sepetiba to compete with Santos. The port put the facility up for concession but there was very little response from the private sector. It appears that the proposed up-front tee of nearly US$100 million made it financially unviable, especially given the need to develop the facilities and then compete for market share with Santos.

U. Panama

The ports of Panama have been operated as public ports. They are inefficient and have handled relatively little transit or trans-shipment traffic, despite their strategic location near to the Panama Canal. Recently, a number of concessions have been granted for the ports. The initial concession was granted for the port of Manzanillo. This was created as a joint venture involving a stevedoring company, SSA, and a major importer of automobiles. The concessionaire obtained financing from the International Finance Corporation, among others. It handled large volumes of containers beginning with the initial year of operation. The result was a payback period on investment of less than two years.

This was followed by the establishment of another new port facility at Coco Solo. The concessionaire was Evergreen Lines and the facility benefited from a large amount of traffic provided not only by Evergreen but by other lines as well. Following on from the success with greenfield terminals, the Government concessioned the ports at either end of the canal, Balboa and Cristobal. The winning bidder was Hutchinson Whampoa, which agreed to pay a total of US$200 million for the concession. In addition, a complementary concession was given to Kansas City Railroad to operate the rail line connecting the two ports. These concessions have dramatically changed the port sector of Panama and placed it as a major trans-shipment port for containers headed between the East and Pacific and the Gulf/Atlantic.

LEASES AND CONCESSION AGREEMENTS

A. Forms of Privatization and the Related Objectives

There are six basic contractual relationships that can be used to increase private sector participation (PSP) in the port sector.

- The **sale** of part or all of an existing public port to the private sector. The land is transferred on a freehold basis but with the requirement that it be used only to provide port services. The objective of the sale is to remove from the public sector the responsibility for the provision of port services. There are very few examples of direct sale of a port, which is often through Management Employee Buyouts, although there are increasing examples of share flotation. In contrast, there are many number of examples of the sale of private land or leasing of public land for the development of private ports. The latter are intended to transfer special cargos or provide special cargo-handling capability.

- A **concession agreement** which includes both a long-term lease of port land and facilities and the requirement that the concessionaire undertake specified capital investments to establish, expand, or renew the cargo-handling facilities, equipment, and infrastructure. The primary objective of this form of agreement is to mobilize private sector financing for port development without giving up ownership of the port's facilities.

- A **capital lease** together with an operating agreement. This is typically a long-term arrangement that is similar to a concession except that the private sector is not explicitly required to invest in the facilities and equipment other than for normal maintenance and replacement over the life of the agreement. The objective of this agreement is to transfer responsibility for the provision of port services to the private sector without transferring ownership of the basic assets used to provide these services. The port improves the quality of services provided to the port users without giving up ownership of its assets.

- A **management contract** under which the private sector assumes responsibility for the allocation of port labor and equipment and provides services to the port users in the name of the port. This arrangement differs from a capital lease in that the port retains control over all the resources and continues to function as an operating port. The principal objective is to improve the quality of supervision of labor and the allocation of equipment for specific port services.

- A **service contract** which assigns to the private sector responsibility for performing specific port activities. The arrangement differs from a management contract in that the private sector provides the management, labor, and equipment required to accomplish these activities. The activities are inputs to the port services. The objective is to allow the port to outsource activities that can be accomplished more efficiently by the private sector while continuing to provide port services.

- An **equipment** lease which can be in various forms involving leaseback arrangements or supplier credits. These agreements are used to amortize the costs to the port for new equipment and to ensure a reliable supply of spare parts and, often, a guaranteed level of service/reliability from this equipment.

B. Structure of Concession

Port concession agreements are fundamentally different from power production concessions, which have accounted for a majority of the efforts to privatize public infrastructure and services. Both concern the nodes in their respective networks rather than the links or the network as a whole, but there the similarity ends. The power concessions are concerned with the production of a homogeneous product for a well-defined market with a relatively simple pricing structure. The purchaser is very often the government or a utility under government regulation. The agreements are for long periods, often matching the productive life of the major assets. There are well-structured contractual documents that can be used with relatively little modification throughout the world. The risks are objective, well-defined, and relatively limited. The commercial risks are assigned to the government or the utility through take or pay agreements. The costs involved in producing the electricity are relatively easy to identify, as are the returns on investment. The concessions are usually capacity constrained, i.e., the private sector is asked to provide a fixed amount of output with well-defined options for providing additional output from the same production base. The contracts have been developed to meet the requirements of project finance. The greatest concern in implementing these concessions is to ensure that the government honors its commitments and that the clearances and other requirements for constructing the power plant are in place.

In contrast, the port functions are more diverse, provided to a wide range of clients under a relatively complex pricing scheme and subject to a greater level of competition. The type and quality of services required by users are constantly changing. The costs for providing services from existing facilities change with technology, organization, and allocation of labor. There is a higher proportion of fixed costs but the productivity of the assets is steadily increasing. The allocation of risk between the public and private sector varies but most or all of the commercial risk is transferred to the private sector. The contracts are more flexible allowing for changes in the type, quality, and amount of services provided in response to the changes in the market. The contract must also accommodate a flexible schedule of investment, since the timing of investment will depend not only on the growth in traffic and the type of services required but also on the productivity of existing assets.

These concessions focus not on the type of specific assets provided, but on their capacity. The concessions contain performance targets to monitor the efficiency with which the assets are utilized, as well as the volume of traffic. This implies a continuous interaction between the port management and the concessionaire to ensure that the needs of the port user are met. Port concession agreements are a mix of standard clauses and special conditions, which reflect the objectives of the port in assigning assets and responsibilities to the private sector.

C. Scope of Capital Leases and Concessions

Concessions and capital leases are used to transfer specific port assets to the private sector for a stipulated period of time. The infrastructure and facilities are transferred through a leasehold. At a minimum, this involves the transfer of a section of the quay wall and undeveloped backup area, with the requirement that the private sector constructs and maintains the berth and service the backup area. At a maximum, the port provides a fully developed terminal but requires the private sector to maintain the terminal and expand it as required to serve the growth in traffic. The concession or capital lease may also provide the private sector with buildings to be used to deliver port services. Again, the private sector assumes responsibility for maintenance of the structures. This arrangement can include the lease of fixed

equipment such as quay cranes, bulk loaders, and yard cranes. In this situation, the private sector usually operates and maintains the equipment and replaces equipment as required. These agreements may also involve the transfer of mobile equipment, but this is generally done through a sales/purchase agreement.

D. Scope of Management and Service Contracts

The management, or service contract, can be used to transfer responsibility for a variety of port services. The most common contract is for the provision of cargo-handling services, either stevedoring or longshoring. These arrangements can be limited to the movement between the vessel and the shore, or extended to the land transport and to storage of the cargo. The contract may also encompass various logistics services, such as consolidation/deconsolidation and cargo clearing. These contracts can be applied to vesselrelated services, such as towage and garbage removal and to port maintenance and security, including dredging, equipment repair, and facility maintenance. These contracts will generally include licensing agreements, which authorize the private sector to provide common-user services to the vessels and their cargo. These contracts may be combined with sales/purchase agreements, which transfer the mobile equipment to the private contractor.

E. The Private Sector's Objectives

For the private sector, the attractiveness of the different types of contractual arrangements will depend on whether they are consistent with private sector objectives. One of the primary objectives is to have autonomy in the management of resources and the provision and pricing of port services. This includes the right to decide on the quality of the services to be provided and the extent to which services will be bundled or differentiated. It also includes the right to differentiate the quality of service, in order to meet specific requirements of port users and to develop new value-added services for them. The other primary objective is to earn a reasonable return on investment and entrepreneurship and to generate a sufficient cash flow to sustain the activity. While there has been considerable concern about monopoly behavior on the part of the private sector, this occurs relatively infrequently. The private sector will always seek protection from competition and, if overly protected, will display the same inefficient behavior as the public sector. However, attempts to maximize profits at the expense of increased traffic are rare. Most private operators seek to increase their profits by improving the productivity and utilization of their assets, thereby reducing their costs. This implies the ability to recruit labor and to avoid restrictive labor practices. The private sector will focus more on increasing market share and developing complementary value-added services than on increasing per-unit profit margins. This is consistent with the objective of long-term sustainability, rather than short-term gain.

One of the more confusing requirements introduced by governments in the tendering of concessions is the limit placed on the return on capital that can be earned by the private sector. First of all, it is relatively easy to circumvent this restriction, through creative financing and a leveraging of the investment. Second, this constraint ignores the fact that increased returns should be earned through greater efficiency not higher prices. Third, capital is a scarce resource and limiting the rate of return discourages firms that invest efficiently while encouraging those

who are willing to accept a lower rate of return.[1] Finally, it places a limit on the autonomy of the private sector, while encouraging investment and the passing on of the investment to the port users.

F. Elements of a Lease

A number of common clauses are found in concession agreements, capital leases and even management contracts. These agreements generally conform to the existing format of either domestic or international contracts. They are rather lengthy during the initial phases of privatization because the government is attempting to anticipate all possible outcomes and minimize the chances for a politically unfavorable result. Once there is sufficient experience with these types of agreements and a body of precedence has been established, then the format can be greatly simplified. Long and complex contracts are found in countries that have only begun to increase PSP in the port sector and where arbitration and contract law are not well developed. On the other hand, relatively simple contracts are found throughout Europe and North America.

1. Parties to the Agreement

Following the basic legal boiler-plate, which is particular to a given country, there is the clause which identifies the parties to the agreement. These include the lessor — the owner of the assets — which are being leased/concessioned, and the lessee — the private party — which assumes responsibility for these assets. The lessor will usually be the port organization, but in some situations the port will not have the legal authority to enter into a lease agreement. The government may then have to sign the agreement. It is incumbent on the lessee to ensure that the port has the legal authority to make the commitments contained in the contract.

The lessee will be a limited liability company incorporated within the country and subject to local corporate law. This or other laws may limit the extent of foreign ownership of the company. The lessee may, through its tender offer, restrict the participation of specific entities so as to prevent potential monopolistic behavior. Thus, shipping lines may be excluded from agreements involving common-user facilities. Similarly, companies that already have concessions in the same or competing ports may be excluded. Alternatively, the port may require that it be included as a joint-venture partner in the company or require that the company be publicly listed.

2. Period of the Agreement

There follows a clause stipulating when the agreement becomes effective and how long it will remain in effect. This can create a problem for the lessee if there is a fixed start date prior to which the lessee must obtain regulatory approvals and complete negotiations with labor.

The period of the agreement will be fixed but may allow for one or more set extension periods. The basis on which these extensions can be granted will determine their value to both parties. The extension will usually require the approval of both parties, but the basis on which the port can withhold approval should be set out in the agreement. The extension will generally

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[1] This is not to argue that private parties interested in very high rates of return over short periods of time are not to be avoided, but rather in selecting among those interested in a long-term involvement in the port, the rate of return by itself is an inappropriate criteria.

involve some negotiation regarding the terms and conditions of the extended agreement, especially the financial terms.

3. Basic Responsibilities of the Port and the Lessee

The essential clauses of the agreement assign to the port and the lessee the basic responsibilities for operations and maintenance and for investment in equipment, facilities, and infrastructure. These contacts can accommodate a wide variety of allocations of responsibility. Of particular concern for the lessee are the port's obligations to **maintain unencumbered land and water** access to the leased facilities and to provide basic protection including fire, rescue, and security services. This includes maintaining the depth in the channel and alongside the berth[2] and ensuring that towage and pilotage services are available upon request.

Another concern is who has **the right to assign vessels to berths** and to authorize storage of cargo in specific areas within the port. Logically, both would be the responsibility of the lessee, but many ports retain the right to assign vessels to berths. It is important that this is done in coordination with the lessee allowing the port to assume control of the berths only in emergencies.

A third area of concern is the assignment of **responsibility for maintenance.** The port is usually assigned responsibility for maintenance of the infrastructure, while the lessee is responsible for maintenance of buildings and paved areas. The maintenance of the fixed and mobile equipment operated by the lessee is usually assigned to the lessee. However, some ports split this responsibility, with the lessee operating the equipment and the port maintaining it. Since well-maintained equipment is essential for efficient operations, the lessee will want to have complete control over the equipment. Where this is not possible, the lessee will seek to include performance criteria in the agreement (e.g., availability, maximum downtime.)

The fourth area of concern is the assignment of **responsibility for capital investment.** This is important not only for concession agreements but also for leases, since the private party assumes responsibility for the renewal of the facility. Most concession agreements will stipulate the initial capital investment to be undertaken by the lessee. This includes the type of facilities and equipment to be provided. Subsequent investments are generally at the discretion of the lessee, but must be sufficient to provide an acceptable level of service to port users. The lessee will not want the port to stipulate future investments, as this will compromise the benefits its obtains from improvements in productivity. While many ports enter into these agreements to mobilize private sector investment, the agreements should not quantify how much is to be invested, but rather how to operate cost-effectively and provide better quality port services. The cost of all capital investments is ultimately passed on to the users. Excess investment will increase port charges and dampen demand.

Where the private sector is responsible for the capital improvements, the port retains some responsibility for the specification of these investments. It approves the design of civil works and structures and ensures that the construction conforms to local building codes. It may supervise the construction to ensure that it is in conformity with the plans as approved, or, alternatively, certify the work once it has been completed. A similar procedure applies when the private sector is removing structures and fixed equipment at the termination of the agreement.

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[2] In some cases. the p---rivate sector will be responsible for maintaining the depth alongside the berth.

A final area of concern is the **ownership of assets.** This can be an important issue for the lessee's potential lenders who seek some sort of security for their investment. Since the assets are fixed and have no resale value, most lenders concentrate on the right to assume control over the assets for the remaining period of the agreement in the event that the lessee fails to meet its obligations (see step-in provisions).

4. Allocation of Physical Assets and Labor

The agreement sets out the modality for the transfer of the port's physical assets and labor to the private sector. The simplest form of transfer is for the port to retain the existing labor force and to sell the physical assets through a sales/purchase agreement, however, this is rarely done. The ownership of the infrastructure usually remains with the port, even for infrastructure that is developed by the lessee. It is rare for ports to enter into an agreement where the lessee retains ownership of the assets it develops until the end of the agreement (a so-called build-own-operate-transfer agreement). Instead, the port assumes ownership of the infrastructure developed by the lessee at the time it is completed in return for which the lessee is entitled to exclusive use of the infrastructure for the period of the agreement (build-transferoperate). The same practice can be applied to superstructure, but often the port will allow the lessee to retain ownership. This gives the port the option of requiring the lessee to remove the superstructure at the end of the agreement if it no longer has any commercial value.

The choice between sale or lease of the port's existing equipment is generally determined by the life of the equipment relative to the period of the agreement. The port will sell equipment which has an economic life that is less than the period of the agreement. The economic life is shortened by technological obsolescence for most cargo-handling equipments.[3] Some ports require the lessee to renew the equipment during the period of the agreement and to transfer the equipment to the port at the conclusion of the contract. This procedure makes little commercial sense for longer-term agreements.

The sale of equipment can be optional where the port sets the price for the existing pieces of the equipment and the lessee has an option to purchase them at the designated price. Alternatively, the purchase is mandatory and the sale price is included in the lease payments. The latter approach is used when the port wants to dispose of its equipment in a way that avoids cumbersome government procedures and does not raise questions as to why the residual value is so low for equipment obtained by the government through a non-transparent process at a relatively high cost.

One of the difficulties for the lessee is that they usually have established operational procedures, which rely on specific types of equipment. They are used to operate and maintain this type of equipment. The used port equipment with its uncertain reliability, limited operational capacity and questionable lineage may well represent a liability to the operator. The requirement that the lessee maintain or renew this equipment is merely an added expense to be passed on to the port users. The most efficient means for dealing with the port's existing equipment is to give the lessee the option of purchasing the equipment for a specified price.

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[3] Ship-to-shore gantry cranes have a physical life of more than 20 years, but over the last two decades the cranes have increased in speed by about 50 percent and have increased in lifting capacity by about 25 percent. Also, the rail gauge, crane weight and reach have increased dramatically. As a result, a fifteen-year-old crane has little value other than for new ports with little traffic.

It is often a major political problem to reallocate the labor that is involved in those port activities and services that are to be taken over by the lessee. The private sector, with its experience in dealing with private labor through a mix of financial incentives and the ability to hire and fire, is usually more sanguine.

In many of the recent concessions, the lessees have been willing to accept the existing labor force, together with a requirement that it continue to employ them for a specified period, and that it assume liability for at least part of their pensions. These same lessees are reluctant to agree to maintain restrictive work practices. Some ports have been able to absorb the labor and allow the lessee a free hand in choosing its labor (especially where the lessee will operate a new facility). Others have allowed the lessee to determine the size of the labor force, but require that the redundant port labor be given the right of first refusal for the private sector jobs. Other ports have required the lessee to assume some of the costs for making the existing workforce redundant.

The most effective arrangement appears to be for the port to give the greatest freedom possible to the lessee in staffing its operations. Where there is resistance on the part of labor, it is best to allow the lessee to resolve this problem through direct negotiation. During the period prior to entering into concessions, the port should reduce the amount of excess labor through voluntary retirement schemes and hiring freezes and actively seek to reduce restrictive labor practices. Plans for more draconian measures, such as decertifying the cargo-handlers union or large-scale redundancy programs, risk creating bad labor relations that will carry over to the agreements with the private sector.

5. Interaction Between the Lessee and Other Members of the Private Sector

The agreement will contain clauses that define the potential interaction between the lessee and other commercial entities. These clauses may limit the competition by providing exclusive franchise rights for a specified period or introducing other barriers to direct competition from other operators with the port. The granting of exclusive franchises is not in the interest of the port or the port users, but is frequently required by the lessee for agreements that include a significant level of capital investment at the beginning of the agreement. The lessee may also require this form of protection if the market has not been developed or if there is significant competition for market share with existing service providers. The negotiation regarding these forms of protection can be quite intense. There are sufficient examples of the port users suffering due to limitations on competition and the private sector suffering from excessive competition, to make both parties wary.[4] This is one of the areas in which outside arbitration can provide a valuable input.

The clauses in the agreement relating to subleasing and subcontracting raise the same set of issues, but the interests of the port and the private sector are reversed. The lessee wants to have the option to bring in others who have resources and experience, which complement its own. The port is interested in limiting these options in order to avoid situations where the lessee acts as a middleman, retaining the economic rents and passing on operational responsibilities and commercial risk to third parties. Attempts to sublease part of the lease/concession area for

[4] The situation in Shanghai is an example of the former, whereas that in Buenos Aires is an example of the latter.

uses unrelated to the agreement or to contract out management or labor are usually prohibited. Equipment leasing, contract maintenance and short-term rental of storage space are usually permitted. It is the subcontracting of services to be provided to the port users that must be dealt with on a case-by-case basis. This is generally to be discouraged, especially for concessions that have been bid out under competitive tender and for which the winning bidder has proposed to perform these functions.

6. Pricing

The agreement defines the charges that the lessee can levy for services provided to the port users or to the port and the payments to be made by the lessee to the port. Both allow for some flexibility. While the initial charges to the port users are stipulated, the evolution of these charges over time can be influenced by market forces. The payments to the port generally allow for adjustment to account for inflation and may also allow for adjustment for the changing value of the concession.

Where the contract involves the transfer of activities from a public monopoly to a private operator, some degree of regulation is required. Lessees may be required to apply the charges listed in the official port tariff or to follow the tariffs set out in the agreement. This can lead to two difficulties. First, if the existing prices do not reflect the market value of the services being provided, then the agreement may preserve this distortion. Second, if the market is changing and the quality and types of services required is changing, then the agreement may discourage the lessee from introducing these changes.

In most circumstances, the port charges are based on the costs of an inefficient public monopoly. In this situation, the existing tariffs can be used but should be stated as maximums, thus allowing the lessee to offer discounts. The contract may further stipulate under what circumstances the lessee can differentiate among users in offering discounts. Public port tariffs also tend to have a complex structure developed from monopolistic pricing practices or arcane cost-based pricing formulas. One of the benefits that the private sector brings to these concessions/leases is a simplified pricing structure. Another is the use of commercial pricing based on the value to the user, rather than the average cost to the port. It is important to the efficiency of port operations, that the lessee be able to introduce these changes over time. This implies either a relaxation of the pricing regulation over the period of the contract or a broad definition of the maximum charge for port services.[5] [6] Over the short-term, it is important to protect the port users against unreasonable increases in total charges and excessive discrimination. Over the long run, it is desirable to introduce competitive forces to regulate the charges to the user.

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[5] One approach that has been used with limited success is to base the financial bid for a concession on the minimum average charge levied to the port user. For this bid, the payments to the port are fixed and the bidders compete to see who can offer the lowest user charges. The obvious problem is to determine what constitutes the lowest charge given a differentiated tariff. The other problem is that the port is defining the value of the concession (in terms of payments to the port) rather than letting the market decide this value. If it is over-valued then the concessionaire must pass this on in the form of higher charges.

[6] Some concession agreements have attempted to apply a limit on the charges based on a maximum rate of return to be earned by the lessee. This is generally used to set the initial rates but does not provide an effective mechanism for evaluating adjustments in charges over time.

Regulations of charges to the users should be limited to those services for which there is no direct competition, e.g., the cargo-handling charge in dedicated terminals. This will allow the lessee to set prices so as to compete for market share in those logistic services offered by other private parties or by the port. The difficulty is to develop an unambiguous definition of competition. This will vary depending on the market. The primary factors to consider are the barriers to entry for potential competitors and the market power of the port users. Regulation should be limited to situations in which there are relatively few service providers who enjoy a distinct cost advantage over potential competitors and where the port users do not have options in terms of different ports, modes, routes, forms of shipment and do not have the market concentration to negotiate effectively with the lessee. Since the level of options available to the port users (both vessel lines through consortia and conferences and cargo owners through forwarders and non vessel operating common carriers) are increasing, the requirement for regulation is decreasing.

One of the issues which concession agreements have failed to address is the transition from non-competitive to competitive pricing. In larger ports, it is likely that the growth in traffic over the life of the concession would allow for competing agreements and at some point pricing regulation should be eliminated. This situation may also occur with the liberalization of trade and transport and the improvements in intermodal transport. Beyond this, there is the dilemma that items get added in response to circumstances but are never removed when the circumstances change.

Where pricing regulation is maintained, the agreement must establish a method for adjusting the regulated prices over time. This can be accomplished by indexing the prices to an agreed measure of inflation, by allowing the tariffs to be denominated in a foreign currency, or by allowing periodic negotiation with the port on rate increases. The latter creates the greatest risk to the lessee. Perhaps the most successful procedures have been to use an index that provides an allowance for both inflation and improvements in productivity where the resulting rates are applied as maximums.

The need for flexibility in pricing is most important where the traffic is changing and the logistic services are evolving. For longer-term contracts, it is certain that the pricing structure in place at the start of the agreement will be irrelevant by the time the agreement ends and likely that it will be ineffective well before that time. This is true for a number of reasons. For example, prices which have been set, based on existing assets, may not reflect the cost for replacing these assets. Also, changes in the relative costs of labor and capital, especially in developing countries, will affect not only what is an appropriate price for port services, but how these prices should be differentiated according to the proportion of labor and capital used by different groups of users. Attempts to anticipate these changes in a regulatory process are cumbersome. Where formulas are used, they reduce flexibility, but where negotiation is used, the uncertainty of the lessee's income is increased.

The most important area where regulation is to be discouraged is the development of new value-added services to meet the changing logistics requirements of the port users. The pricing of these services not only lack a precedent, but also require that different prices be set when offering discounts to build demand and when earning a return from a mature market. The agreements need to allow for competitive pricing of new services, rather than attempting to bring them under a broad regulatory framework.

Public ports have set their tariffs through evolution and relied primarily on comparative pricing. The concept of cost-based pricing was introduced by development agencies to eliminate

government subsidies for specific port services. This concept was never effective in improving port efficiency or innovation. Instead, public ports have relied on a few innovative ports to develop new services and define the pricing structure and rates for these services. While this will continue under a system of private concessions, the evolution is expected to become more rapid.

The payments made to the port by the lessee are simpler in structure and unlikely to change in format over the life of the agreement. They are of three basic forms: a fixed periodic payment (rental), a volume related payment (royalty), and a percentage of gross revenue (surcharge). Where this is a fixed annual rental, the agreement will stipulate the level of payment over the period of the agreement. This will include a fixed adjustment from year to year or an index to be used in making this adjustment. Where this is a royalty payment, the agreement will stipulate the unit of measure and the amount of the royalty to be paid per unit. It will indicate if there is any change in the unit rate as the volume increases and whether there are minimum and maximum amounts of royalty to be paid on an annual basis. Again, the amount of adjustment, or the procedure for determining this amount, will be set out in the agreement. Surcharges have not been widely used, but they do offer the benefit that the income to the port automatically increases with the increase in the business of the lessee. This approach avoids the need for adjustment based on inflation and provides a closer approximation to the value of the concession (which depends on cash flow rather than asset value). It can be difficult to implement where reliable, independently audited accounts are not available, or where the lessee needs to treat the information on revenues as confidential.

The determination of an appropriate pricing structure depends on the level of risk associated with the concession and the willingness of the parties to the agreement to share this risk. The initial level of payments is best determined through a competitive bidding process, since public ports generally lack the information needed to set a market price on the concession. While fixed rentals and large up-front payments are the easiest to administer and offer the most visible return to the government, they generally yield the lowest value. It is important that ports seek the greatest value from their concessions not by passing on increased charges to the port users, but by offering the most attractive form of payment to the lessee.[7] The income from the agreement can then be used to develop additional facilities and services that will be subsequently concessioned.

7. Performance Standards

Where the agreement between the port and the private sector is intended to increase port traffic and to promote the commercial activities of the port, it is important to measure the effectiveness of the lessee in achieving this objective. One possible set of measures is based on the growth in traffic from year-to-year during the period of the agreement. Since the growth is affected by macro-economic conditions, a more useful measure is market share, which compares the traffic growth with that of other ports in the region.

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[7] This takes advantage of the difference in discount rates of the public and private sector in the last decade, budget deficits have increased government discount rates, often above those of the private sector. Although the development banks have helped to increase these rates by encouraging countries to sell off public assets and reduce budget deficits, they have yet to recognize this fact in their appraisal of projects.

Another set of measures concerns productivity of assets. These measures include the throughput and utilization of the berths, storage facilities and major equipment. They have frequently been used to define minimum performance requirements, but are rarely used to define targets for improving efficiency over the life of the agreement. This is because the lessee is usually able to achieve an initial improvement in efficiency merely through the reallocation of labor and equipment and the change in management. Subsequent improvements require continuing investment and innovation by management. Often the private sector fails to deliver a continuing effort to increase productivity even though the market requires it.

8. Liabilities for Damage and Mitigation Measures

The liabilities of the lessee with regard to damage to vessels, cargo, and port resources are covered by a set of standard clauses. These define the point at which the private sector assumes responsibility for the cargo and under what circumstances the lessee is liable for damage to the vessel. These clauses are important to avoid situations in which port users do not have clear recourse in the event of damage or loss of cargo or damage to the vessel.

These clauses also stipulate the type of protection the lessee must carry to cover these situations, i.e., insurance, performance bonds, bank guarantees, etc. The agreement will often stipulate the period over which this protection must be maintained and it will often include a specific amount of protection.

Similar protection is required for the port assets under control of the lessee. This includes protection against natural disasters. Most agreements will stipulate that the assets be returned to the port in their original condition, allowing for normal wear and tear. The procedures for inspection of the assets at the end of the agreement and the valuation for damage will also be set out.

One area in which the issue of liability for damage is becoming increasingly important is environmental damage. This is a difficult area because the legal environment is continually evolving and the port may be held responsible for actions of the private sector under agreements that were in force prior to the enactment of new environmental laws. Although this concern has been slow to make its way into the contract agreements, it will be increasingly important in the future.[8]

9. Conditions for Early Termination and Remedies

These clauses describe the events that lead to default and the remedies available to both parties. The conditions of default include:

- The failure of either the port or the lessee to meet their obligations.
- Changes in the conditions affecting both parties at the time the agreement was reached.

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[8] Of particular concern is the requirement that the port clean up toxic wastes or restore sites to their original condition. This can be a costly issue, as in the case of the Port of Mobile which had to clean up an area used for creosoting telephone poles long after the lessee had departed. It may also affect port development, as in the case of Rotterdam where the contaminated soils in sites leased to refineries must be disposed of once the land is no longer used for this purpose.

For the lessee, defaults generally occur due to a failure to provide services to the port user of the type and quality stipulated in the agreement. For a concession involving a commonuser facility, defaults can also result from unfair discrimination among users of the port. Another common basis for termination is the failure to meet financial obligations. This includes nonpayment of rent or misrepresentation in the required financial reporting. It also extends to problems of bankruptcy.

For the port, defaults generally occur due to failure to provide the complementary services required for efficient operation by the private sector. This includes failure to maintain equipment and facilities and to provide free access. The financial basis for early termination generally refers to the failure to allow for adjustment in the level of charges. The conditions for early termination due to failure of the port to meet its obligations are less important because the concessionaire is in a better position to unilaterally cancel an agreement.[9]

Another important condition for termination is the failure of the commercial environment to perform as expected. Either specific markets do not develop, the services required in these markets are significantly different from what was proposed, or the competition in the market is greater than expected, resulting in much lower returns. Both the lessee and the port will seek protection from these events through early termination.

For the lessee, a particular concern is the entrance of new competitors. The port can limit entry under a franchise agreement. This is introduced where there are large capital investments or a new market is being developed as discussed above. Even without these conditions, the lessee will seek some protection from competition. The lessee will be especially concerned to avoid competition from the port, which can take advantage of its non-commercial status to compete for market share with the private sector. It will also seek to prevent the port from allowing others to compete for market share under terms that are more favorable than those currently in effect. It may also occur where the country develops new ports or changes to rules affecting the way business is conducted in the port sector.

For the port, early termination is an important method for adapting to the changing demands of the marketplace. It can be used to replace lessees that have failed to develop business for the port or, worse, have caused the port to lose business. It can be used to reclaim port resources which are not being properly utilized, or are no longer being used to provide the intended port services.[10] Early termination can also be used to re-bid a concession where the lessee is not meeting their obligations. In this way, the port can capture a part of the enhanced value of the port's resources, rather than allow a lessee who is not meeting obligations to sublease or subcontract to third party's willing to pay for the right to provide these activities. The same situation applies when there is a substantial change in ownership of the lessee's company. The attempt by the lessee to transfer the concession to another party, through a change in corporate ownership, is a ground for early termination.

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[9] The concessionaire is footloose and usually does not have complementary agreements with the port. However, the port has obligations with other concessionaires, which will be undermined by unilateral action.

[10] Without a basis for early termination, the port may be forced to buy back the contract where the port land and other assets are not being utilized.

In order for early termination to be effective, it should be based on:

- Objective criteria.
- Undertaken in an expeditious manner.
- Not be disruptive to normal port operations.
- Include compensation where appropriate.
- Allow for a quick re-bidding of the contract.

The clauses for early termination will specify:

- The actions to be taken for notification of the party concerned of its failure to meet its obligations.
- The period allowed for that party to resolve the problem.
- The person(s) responsible for determining whether the problem has been resolved.
- The steps to be following if the problem is not resolved to the satisfaction of the other party and the period of time required between each step.
- The procedures to be followed by the lessee in vacating the concession area and returning the physical assets to the port.

Within this context, penalties are often introduced in order to discourage the lessee from being negligent with regard to its obligations. However, penalties can often act as a deterrent to an expeditious termination and lead to lengthy litigation. For this reason, it is important to limit the use of penalties and to avoid expectations that these will lead to more efficient operations. In this context, arbitration is an important element of any contract. While many countries will require local arbitration, it is important to provide impartial judgement. This can be done through the participation of institutions such as the Chambers of Commerce, which represent a broader constituency or through formal international arbitration. The latter is more costly, but provides greater comfort to foreign investors and lenders.

It is in the interests of efficiency that the conditions leading up to early termination be based on the inability of the parties to the agreement to meet their common objectives. It is in the interests of the port users and the efficiency of the port, that neither party be held to an agreement when they are unable to meet their commercial objectives. In most concession agreements, the early termination clauses focus on the performance of the lessee. It is equally important that the lessee have no serious impediment to canceling the agreement if he/she is unable to meet his objectives. It is also important that more attention be given to the port's failure to meet its obligations. As long as the port remains in the public sector, there is a risk of political interference in the relationship between the port and the lessee. The port must be held accountable for its failure to meet its obligations in order to avoid politicians forcing a lessee out of the port so as to allow a better connected party to take over the concession. This does not necessarily mean financial penalties, but it does require some form of retribution, which will force the port to be accountable for its failure to meet its obligations.

The clauses that relate to early termination and remedies are of particular importance for the lenders and investors who are providing capital for the lessee. Since the money is being borrowed by special purpose companies that are established specifically for the concession, the only recourse of the lenders and investors is to the revenues generated through the agreement. In order to maintain this recourse, the lenders will focus not only on the ownership of assets, but more importantly, on the step-in provisions that allow them to preserve their recourse to the cash flow generated by the concession. Under these provisions, the lender will have the right to retain the concession and select a new lessee in the event that the original lessee defaults. This

selection will be subject to the approval of the port. These procedures allow the lenders to transfer the debt obligations to the new lessee, or to recover part of their outstanding principal by charging the market value for the residual agreement.

The early termination clauses are most important during the early stages of privatization of the port sector. At this time, the ports have relatively little experience with long-term agreements and potential for impropriety in the selection process is greatest. It is also at this time that the market distortions resulting from public management of the port are still in place but will be changing in somewhat unpredictable ways. Also, the expectations of both the government and the private sector with regard to the results of the privatization process are most likely to be at odds with the realities of a competitive marketplace. In this situation, there is a natural tendency of government to introduce an extensive list of conditions and remedies as a means for avoiding controversy or accusations of fraud and negligence.[11]

Once the port sector has introduced a few lease and concession agreements, the legal precedence for these contracts has been established, commercial pricing has been introduced and the expectations of the market are better understood, then the conditions for early termination will be less critical. It is at this point that the format of the contract should be greatly simplified. Fewer termination clauses should be included, but these would have a standard form.

[11] As has occurred in the United Kingdom following the full privatization of the port sector (and of much of the public services) which allowed individuals to capture the economic rents associated with the public monopolies. The phenomenon of the instant millionaires and the new oligarchies has been one of the more notorious features of privatization throughout the world.

OBJECTIVES OF PORT PRIVATIZATION

Table A6.1: Positive Objectives of Port Privatization

General Objective	Objectives	Strategies
Privatize	Fulfill government policy to transfer state-owned enterprises to the private sector	Concessioning of port terminals. Divestiture of Port Operations through corporatization. Divestiture through sale of assets or Capitalization through sale of shares
Increase Efficiency	Increase utilization and throughput of port assets Improved cost control and budgeting.	Private cargo-handling and equipment, leasing of storage area and concessioning of terminals. Commercialization and corporatization of port management.
Promote Port Services	Effective marketing of port services. Use of commercial networking.	Terminal Leases and concessions to shipping lines, international terminal operators,
Mobilize Financial Resources	Provide access to private finance and develop more financially attractive projects to the markets.	Sale of Assets. Concession of port terminals Capitalization through sale of shares.
Introduce Private Management	Reduce political interference in appointment of managers. Professionalize port management. Introduce performance incentives	Corporatization of port operations. Commercialization of port management. Management contracts. Lease storage areas Concession terminals.
Improve Labor Relations	Introduce modern labor relations. Eliminate restrictive labor practices. Reward labor productivity.	Private cargo-handling labor Concession terminals.
Decentralize Ports	Provide local representation. Mobilize local entrepreneurial talent.	Corporatization and creation of subsidiaries. Concession of terminals.
Promote Public Ownership	Increase public share-holding. Strengthen market capitalization.	Capitalization through sale of shares. Concession of terminals to publicly held companies.
Increase User Participation	Increase role of shipping lines, cargo owners, land transport and logistics companies in port operations	Lease berths and storage areas. Concession terminals to user

OBJECTIVES OF PORT PRIVATIZATION

Table A6.1: Positive Objectives of Port Privatization

General Objective	Objectives	Strategies
Reduce Government Deficits	Reduce deficit through sale of government assets	Divestiture through sale of assets.
	Reduce capital and operating subsidies.	Capitalization through sale of shares.
De-politicize Labor	Remove cargo handing labor from government employment,	Deregulate cargo-handling, transfer cargo-handling responsibilities to private sector, concession terminals.
Downsize Government	Downsize port bureaucracies.	Institutional reform through corporatization of port operations and commercialization of port management.
	Reduce pension liabilities.	

FINDINGS OF WORKSHOP ON PRIVATE SECTOR PARTICIPATION IN INFRASTRUCTURE

A. Specific Observations Regarding the Port Sector

The following points pertaining to the port sector were presented at the Workshop, held in Manila on 9-10 December 1998.

Effective port operations and investment require the unbundling of port networks to produce more client-oriented autonomous ports. The tendering process should encourage unbundling of both the network and the services within the ports. Where ports are not financially viable, they should not be bundled with profitable ports, but rather treated as stand-alone facilities that are turned over to local government or put under management contract using a competitive tender.

The landlord port structure is more robust than the traditional resource (tool) port or operating port because it accommodates different forms of public-private partnership, while recognizing that the only fixed responsibility of the public port is the ownership of the site.

The most effective and efficient procedure to promote private sector participation (PSP) in the port sector is to lease existing facilities with relatively short-term lease agreements that allow for reorganization and improvement in productivity. Subsequently, concession agreements can be used to encourage private investment in additional capacity. Where this capacity is required immediately, or labor problems make it difficult to unbundle existing facilities, then concessions might precede lease agreements.

The critical element in any effort to promote PSP is competition, or at least the potential for competition. This can be done through direct competition between private sector service providers, between public and private sector providers and between bidders in the case of a tender for an activity with only one supplier.

The private sector should assume all commercial risks. Other risks should be negotiated based on which party has the capability to mitigate the risk.

Continued public investment in basic infrastructure will be required, since it is difficult to recover the costs in a period that is reasonable for the private sector. Public investment may also be required to reduce the barriers to entry. This is important where a new entrant must make a large investment before competing with existing service providers.

The best form of tariff regulation is market regulation. Failing this, the second best is through the terms of the contract. These would identify non-competitive services requiring regulation, clearly state the maximum rates, the formulae for escalation, and arbitration procedures in the event of discriminatory behavior in excess of that justified by commercial pricing. The third best is through the establishment of a regulatory agency outside of the port, which would evaluate requests for tariff increases. All of these are preferable to a vague procedure for negotiating future changes in tariffs.

Reforms in the port sector requiring changes in legislation consume a considerable amount of time. In many cases these reforms will change institutional structures and responsibility but not the people or the corporate culture. Therefore, they are of limited value. Transactions involving the transfer of specific facilities and services to the private sector are

faster and should precede sectoral reform, since it introduces new management and a new culture into the port.

The participants identified other issues, including:

- The difficulty in selecting between the different contractual mechanisms discussed in the report.

- The need to separate the regulatory functions from the residual public port functions.

- The concern as to whether the private sector will meet the long-term needs of the port and the need for a continuing dialogue between private service providers, the users and the public port after the contract has been signed.

The propensity of the private sector to attempt to transfer commercial risks to the public sector during negotiation.

- The importance of communications and information exchange in the efficiency of port operations and the need to include this in considering the future role of the public sector in port activities.

- The difficulties in introducing PSP when there are strong unionism and the need to look at both the financial and human dimensions of downsizing port labor.

- The potential for monopoly behavior where large multinational terminal operators gain control of several terminal operations in a trading range.

- The questionable value of introducing foreign exchange pricing in ports where most of the operator’s costs will be local exchange.

- The need for a continuing role of government in planning the development of megaports to limit investment in excess capacity.

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