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**GLOBALISATION, PRIVATISATION
AND
RESTRUCTURING OF PORTS**

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The continuous process of change in international transport management in the last ten years, from a segmented modal approach towards a much more integrated transport concept tailored to better meet the pressing needs of customer industries, is resulting in an increasing pressure on ports to adapt their role and function to this more demanding operational environment. This entails the rethinking of national port development strategies, as well as far-reaching reforms in the legislative, regulatory, and managerial environment within which commercial ports have to operate.

In particular, the need to define new partnerships between the public and private sectors in port operations, investments financing and assets management, leads to a review of the respective roles of public and private actors, and specifically calls for a clarification of the mandate of the public sector, and simultaneously of the missions it would be well placed to undertake. These missions are likely to be more of a catalyst and facilitation nature, together with a stress on assistance to public statutory duties, with a particular attention devoted to transport safety and environmental protection. New labor practices are also calling for a changing role for port workers' unions and a new style of dialogue between labor and public and private entities on the waterfront.

Simultaneously, efficiency of inland transport to serve an increasing, and most often disputed hinterland, has become a critical factor of the ports potential future, as well as of overall trade growth prospects. Today's global logistics organization makes it mandatory for shippers worldwide to be able to rely on seamless transport chains, of which the port is a prominent node. Smooth interaction between the port and the city often surrounding it, in terms of transport networks requirements, environmental protection, and overall safety, therefore appears a prerequisite for effective delivery of integrated logistics services. Port authorities are likely to have a major role to play in fostering the development of an effective cooperation between interested public and private players, which will be required to make it possible to achieve the expected benefits of integrated transport and logistic operations.

Finally, the institutional context, as well as the assets ownership and managerial framework, must be conducive to an optimal cost-effective utilization of port facilities. This supposes openness to competition in provision of port services, and establishment of appropriate regulation arrangements where market conditions make it necessary. Physical and regulatory integration of transport networks, as well as comprehensive strategies for addressing development planning, environmental and social issues, will also be required to allow national port systems to provide local and regional economies with the services they need.

A. The Elements of the Port Reform Agenda

1. The international support to port improvement schemes was generally straightforward during the 1960s and 1970s. As a common feature in the early years after independence, port infrastructure in most developing countries was badly maintained and often poorly managed. The immediate needs were therefore easily identifiable--ports had to be kept open as a key prerequisite for maintaining trade flows. The provisions for port assistance during that period were centered on engineering and related construction aspects, financing management issues, institution building, and manpower development. The scenario changed drastically from the early 1980s onward, when changing shipper practices, aided by rapidly progressing technology advances like cargo containerisation, induced the ocean transport industry to fundamental restructuring in service networks. Suddenly there was no longer any distinction possible between ports in developing countries and in industrialized nations. The same problems confronted all ports worldwide.

2. The key topics addressed under current port sector reform programs include:

- reformulation of national port system development strategies;
- reforms of the legislative, institutional and procedural provisions for port systems planning and regulation;
- reorganization of port management arrangements; and
- introduction of innovative financing and cost recovery schemes.

3. The need *to reformulate national port system development strategies* stems from the fact that the configuration of cargo generating hinterlands has changed, and that ocean transport networks have undergone restructuring. As a result, the nature and pattern of demand for services in many ports have become different. Quite often, there are cases where the physical layout of ports is not any longer in line with user requirements. Some of these ports will need to be adjusted to a changed role and function, for instance, by having lost importance as line-haul facility. In other, albeit more limited cases, ports with formerly low importance for international ocean transport have been confronted with unexpected direct service demand. Owing to these circumstances, governments in maritime nations have to reconsider their criteria for national port system development to ensure demand-responsiveness to the changing needs of trade and transport. Since budget constraints and limits to capital market exposure are today common among both developed and developing countries, there is usually a stringent need to search for cost-effective solutions which minimize required investments.

4. Hand in hand with the need to reformulate national port development strategies went correspondingly required *reforms in the legislative, institutional and procedural provisions for port systems planning and regulation*. As regards planning, the main

issue usually was overly concentrated decision-making in central government bodies with little participation of port managements, and mostly no consultation of port users. Concerning port sector regulation, the provisions were commonly obsolete, reflecting market conditions prevailing at the time of their promulgation, which sometimes dates back for more than a generation. Thus port sector regulations in many countries were critically ignorant of the special requirements of the changing trade markets and transport industry organization. These regulations often constituted severe impediments to trade performance.

5. Today, possibly the most debated issue within the public administrations and port communities in maritime countries relates to options for improving the provision of port services through *reorganization of port management*. While there is the gradually increasing awareness of the need to adjust port system development strategies to the changing trade and transport market environments, a clear appreciation of the immediate requirement to make port service provisions more responsive to user demands has now become commonplace. The usual shortcomings entail cumbersome organization structures, complicated lines of command, lack of incentives and accountability, outmoded management practices, and excessive employment of port labor. The culture of public administrations, inherited legislative provisions, and ill-defined employment objectives are usually the root causes of these shortcomings.

6. There are two concepts which feature prominently in this debate: corporate management and privatization. Corporate management stands for plans to delink the administration of ports from central government. Various forms of proceeding along these lines can be observed. In some countries the management of regional ports is put under the jurisdiction of provincial or municipal governments, and substantial autonomy is granted to individual ports in arranging their day-to-day services. China is a case in point. In other countries, previously state-run ports are pooled and transformed into public corporations with full accountability for the conduct of their business, like in Indonesia. The World Bank has been much involved in helping these and other borrowing member countries through the various stages of putting national ports on a more business-oriented footing.

7. Possibly the most striking feature of rearranging port organizations is the growing *participation of private parties in the provision and management of port services*. Such arrangements have a long tradition in north American and West European ports which act as landlords while private concession holders organize and conduct a variety of services. The performance characteristics of such services have been superior and very beneficial to individual ports. Confronted with continued low productivity of their state-run ports and in view of the productivity gains among western ports, after their operations had been put under the control of private management, a growing number of governments in developing countries considered adopting similar arrangements. Contracting a private consortium for the operation of the container terminal of Malaysia's Port Kelang was the first major initiative along these lines. It took place in the mid 1980s. Since then the organization of more than 100 ports in developing and transitional countries has been changed, with private parties participating to varying degrees in the operation and management of port services. This process has gathered its own momentum and new

public-private port management and service contracts are reported each month. Such developments are particularly prevalent in East and Southeast Asia and now also throughout Latin America, whereas Africa begins to follow suit.

8. Justifiable *port investment and recovering the costs of providing port services* remains a principal concern worldwide. Many of the currently observed inefficiencies in ports can be traced to underlying weaknesses in financial management. But it would be unfair to exclusively blame port managers for such state of affairs. Very often their freedom to charge for port services on a cost basis was curtailed by central government decisions concerning the level and structure of port charges. Such predetermined charges frequently bear little relation to costs incurred, and thus ports run sometimes huge annual deficits. Conversely, port income statements may display apparently healthy financial results, when most of it stems from inadequate assets depreciation policies or systematically deferred maintenance, which will finally result over time in additional unwarranted outlays and add to transit costs. Eventually, ports still in natural monopoly positions can sometimes extract from their customers higher incomes than justified by the services they provide, and therefore balance their operating costs, again at the expense of final customers, national shippers and consumers. The incentives for facility managers to cut costs by streamlining the provision of services was usually undermined, either because they could count on their governments to provide subsidies if and when their annual performance record shows deficits, or because of their ability to raise tariffs without having to fear market retaliation. However, the growing fiscal crisis in numerous countries seems to dictate an end to these practices, harmful in terms of budget deficit or of economic hardships. Ports are thus losing their accustomed source of financial relief and have no other choice but to look internally for ways to cut costs, and to explore other sources of income.

9. Since the early 1990s, private sector participation in financing port improvement and expansion schemes in developing and transitional economies has greatly expanded. Substantial private funds are now flowing into port modernization programs in many Asian and Latin American economies. Actually, the amount of private capital directed at developing ports worldwide since January 1996 only approaches US\$10 billion. These developments were facilitated through decisive deregulatory measures by local governments which were conducive to creating transparency and thus reduced perceived risks--stimulating private capital flows. The returns on private investment in ports have been attractive in many instances, particularly in the case of container terminals located in high growth markets. But even for smaller ports with still limited cargo volumes cases could be made for private sector involvement. The essential prerequisite was to give private parties freedom in decision-making as regards marketing and organization.

B. A New Public/Private Balance

10. The issue of effectively delimitating public/private boundaries in port activities is likely to be the prominent question in any reform process, since the intrication of public and private players tends to be greater here than in other transport modes. It involves a clear definition of the public sector mandate and of its relationships with its private

partners, with a view to fostering private-sector led investment and development capacity. This requires a comprehensive understanding of the interests at stake, so that public and private partners can be in a position where they can provide each other with the services they are the best placed to deliver: an efficient and clear regulatory environment and a basic set of well-interconnected infrastructure networks for the public sector, a cost-effective transport system for the private sector.

11. It seems consequently possible to identify some main areas for public sector intervention in this part of the transport sector, which may be displayed as follows:

- (a) to provide financing for some basic infrastructure components, to pave the way for increased private financing of operational facilities;
- (b) to promote better physical and operational integration of sea and land transport networks;
- (c) to ensure appropriate safety conditions in port and navigation activities, and to monitor the environment protection policy;
- (d) to contribute to the trade facilitation process at the sea/land interface, thus helping ports to act as creative partners in international trade development.

12. The prospective public sector's role in these areas can be described in a more comprehensive manner by defining it under three different natures of mission: the **catalyst** mission, the **statutory** mission, and the **facilitation** mission.

The Catalyst Mission

13. The public sector's role here would be twofold, with the aim to help Governments:

- (a) to finance transports assets which very unlikely would get access to private or alternative financing sources, and whose completion clearly appears on the critical path of transport development programs. Such investments would be primarily aimed at inducing the private sector in providing resources to cover operational investments, including infrastructure, once the public action has helped creating a physical enabling environment. Specific intervention would regard in particular basic protection and access infrastructure (breakwaters, channels) and access connections with inland transport networks (road, rail, waterway);
- (b) to create a regulatory enabling environment for private participation, by being a guarantor of public order and ensuring an appropriate social climate. This would entail implementing an appropriate legal and regulatory framework to ensure fair competition, avoid monopolies and rent-seeking activities, and assisting port authorities in dealing with labor

redundancy issues, possibly in financing socially adequate redundancy schemes.

The Statutory Mission

14. The public sector's role here would be to help Governments take care of some of their statutory duties as national authorities: this will deal mainly with transport safety, environmental protection, coastal management, and port/cities relationships. Specific intervention would regard in particular:

- (a) Navigation safety: navigation aids, vessel traffic services, hazardous cargoes transit management;
- (b) Environmental protection: compliance with international conventions on maritime environment, on dredging and exploitation of marine resources, adherence to regional agreements to enforce and monitor international regulations and agreements;
- (c) Coastal management: shore and coastline stabilization, beach nourishment and coastal defense structures, shoreline defense policy;
- (d) Fostering common development policies between ports and cities: helping in setting up common planning boards or consultation committees on land development issues, assisting in designing port relocation operations and relating legal and financial arrangements for the disposal of redundant port facilities.

The Facilitation Mission

15. The public sector's role here would be to assist Governments implement measures aiming at improving the effective use of all modal transport networks, primarily by addressing the basic issues relating to the ports' nodal position in the international trade pattern. Specific intervention would regard in particular the trade facilitation process. The Public sector's facilitation mission may therefore include the following tasks:

- (a) Strengthening public governance: improving institutional ability to monitor new public/private partnerships and oversee operations without interfering in the commercial sphere, helping devise and implement clear mechanisms to manage transactions between public and private bodies without hindering open competition;
- (b) Helping the trade facilitation process: improving customs regulations and practices, assisting in designing and implementing efficient enhanced communication systems, assisting in trade documentation harmonization efforts;

- (c) Spearheading initiatives conducive to trade integration: assisting design and implementation of first development initiatives to induce value-adding activities to settle in port areas, helping finance facilities aiming at attracting distribution and logistics services within the port complexes, assisting in financing the first development phases of potential dry ports facilities and related intermodal connections.

C. Issues and Challenges

16. The characteristics of the public sector mandate, as described above, call for the establishment of a well-defined public authority to deliver the duties and services associated with it. This will usually be a Port Authority vested with all regulatory and statutory powers requested to ensure sound operations of the port facilities.

17. The necessity to establish a public Port Authority is sometimes questioned. However, a review of prevailing situations worldwide shows that in an overwhelming proportion, the choice is being made to vest the specific regulatory powers required to manage the provision and development of port activities into a public Port or Marine Authority, either at a local or national level, depending on the size of the countries. This stems from the need to have a clearly identified public partner to act as a counterpart to the private sector in negotiating and implementing new operational and development formula for the port sector. The lack of such authority, easily accessible at the local level, can quickly become a significant impediment to a balanced development of effective public-private partnerships. This may happen today in Argentina, where the future of the very successful first privatization stage of port operations in Buenos-Aires is now in danger of being hindered by want of a public Port Authority, wisely provided for in the law, but not yet established. Simultaneously, in Brazil, where an ambitious port sector reform program is being implemented, a major issue now debated is the format, organization and functions of local Port Authorities.

18. An important physical requirement, to be met early in the reform process, is to clearly and legally define the port areas, on both the landside and the seaside, so that singleness of command and authority on these areas, to be devoted to the public Port Authority, can be established early on. This will make the Port Authority the official and only local public body entrusted with the duty to deal with any proposal to develop or invest on the dedicated port area, thus avoiding the risk of conflicts between different public stakeholders later in the process. As we will mention further, local authorities, in particular municipalities, will often wish, and rightly so, to be institutionally associated to port authorities, so that decision of common interest to the port and the city can be taken with a comprehensive view of all public interests at stake.

C.1 Institutional Framework

19. Assets ownership and assets operations are two distinct matters. However, there are combinations of ownership and operations structures which have proved over time to be more or less conducive to cost-effective use of assets and to overall efficiency in the

delivery of port services. Moreover, the corporate structure of the port enterprise itself can have a significant bearing on the assets management policy.

C.1.1 Operating Patterns

20. There are basically three types of port operating structures:

- the Service Port: the Port Authority provides all commercial services to ships and cargo, owns and operates every port asset, and fulfils all regulatory functions;
- the Tool Port: the Port Authority owns the infrastructure, the superstructure and heavy equipment, rents it to operators which carry out commercial operations, and retains all regulatory functions;
- the Landlord Port: the Port Authority owns the basic infrastructure only, land and access and protection assets, and leases it out to operators, mostly on a long-term concession basis, while retaining all regulatory functions.

21. These operating structures can exist regardless of the public/private ownership pattern; however, the overwhelming trends are as follows:

- the Landlord Port and Tool Port Authority are usually public bodies, owning the land and related assets on behalf of the Government, while the commercial operators leasing the facilities or renting the superstructure and equipment are private companies;
- the Service Port Authority can be either a public entity, as it used to be in former socialist countries, and in Singapore, or a private one, as is the case in Felixstowe (United Kingdom), or Hong Kong. Since both Singapore and Hong Kong are outstanding references as far as productivity of port services are concerned, this could suggest that to some extent, ownership could be a secondary matter. However, the Service Port experience in former centralized economies clearly demonstrated its shortcomings, and the former Port of Singapore Authority was turned in 1997 into PSA Corporation, a port operating company, while regulatory powers were vested into the newly created Maritime and Port Authority (MPA); this landlord port authority will then have to open the field to competition by ensuring market access to potential competitors/investors.

22. Since promotion of competition for the provision of port services is one of the main objectives in implementing port institutional reform, considerations of traffic levels will come into play when deciding upon the best possible formula for a given situation. Clearly, traffic levels and structure will be critical factors in electing the most suitable way to promote competition, or to regulate monopolies when unavoidable. In general terms, the following basic remarks will hold in most cases:

- The Landlord Port formula, according to conventional wisdom, has been for long considered suitable only for ports enjoying very high levels of traffic--20 million tons/year or more, excluding petroleum products--allowing for natural competition to develop among independent service providers, these ones handling each a sufficient

market share to be able to sustain significant investments in superstructure and cargo handling equipment. To a large extent, this is no longer true today, and the Landlord Port concept is gaining ground throughout the world, at the expense of the Tool Port and Service Ports formulas. A 1997 world review of the top 100 container ports thus demonstrates that 88 out of 100 conform to the Landlord Port model, in which the Port Authority retains ultimate property rights over port land, and fulfils all regulatory functions. However, this raises issues as far as competition and monopoly regulation are concerned, as we will discuss below (see paras.27-31).

- The Tool Port formula, though losing ground to the Landlord Port concept, may still be adapted to small to medium-size ports, in so far as it could provide opportunities for competition between several cargo handling companies, where the Landlord Port would likely lead to a monopoly situation, at least in the first stage (see paras.32-33).
- The Service Port formula will find its justification mostly in two main cases: *transport management integration*--either commercial integration on traffic niches (unitized cargoes), or industrial integration between processing and transport (raw materials in bulk); and *maintenance of social continuity*, when natural conditions make the existence of a port a critical aspect of regional and social balance. In the former case traffic is likely to be sufficient to make the port self-supporting, in the latter the reverse may often be the rule. In terms of operators, the first will generally be privately operated, while the second will probably be publicly managed (although this may not preclude private provision of services, see para.34).

C.1.2 Ownership Structure

23. As far as ownership of assets is concerned, the following principles are worth attention:

Land: coastal land, and generally speaking port grounds and sea-land interface areas, are in any given country a scarce economic resource subject to various competitive potential uses, from transport to urban development, exploitation of sea resources, agro-industries, or recreation, all taking place in a naturally sensitive environment. The need to strike the right balance between these different activities in an environmentally sustainable fashion now leads Governments to define and implement Integrated Coastal Zone Management (ICZM) policies, with a view to optimize the use of coastal areas from economic, social and environmental standpoints. This is a strong argument for keeping port land in public ownership. Land is power, and it is within the statutory duties of public authorities to retain the capacity and power to carry out long-term planning decisions affecting naturally restricted areas, all the more so that the utilization of which usually carries a significant weight in the overall country's resources management. Reviewing recent privatization experience, the UK Public Accounts Committee Report on Trust Ports notes that land and berths sale actually weakens the chance to get the privatization process right on operational grounds, and recommends, should land sale still be considered, to include in sale contracts "clawback" provisions on gains on future land resales to discourage speculative bids driven more by real estate development purposes than by sheer interest in port operations.

Large operational rights, sometimes even quasi-property rights, can be granted to private operators through appropriate contractual agreements, but ultimate public ownership of port land would appear warranted.

Infrastructure: when speaking of basic infrastructure assets established on public land, such as breakwaters, channels, docks, inland transport connections, public ownership is likely to remain the rule. On the other hand, every other operational infrastructure, including berths, could be privately owned provided the port operational pattern calls for it. Owing to the fact that the port grounds, as mentioned above, will generally remain in public ownership, a condition for private establishment and ownership of any operational asset located in the public port area will be an adequate concessioning or leasing arrangement, whereby the private owner will be granted a contractual period of time commensurate with the financial depreciation period of the assets he intends--or is requested--to set up.

Superstructure and Equipment: all superstructure buildings and pieces of equipment can be privately owned, and actually tend to be so today, in accordance with the trend towards establishment of Landlord-type Port Authorities.

C.2 Corporate Structure

24. Port enterprises, once they are separated from Governments' administrative departments, and whatever their operational pattern may be, can basically adopt two main corporate setups:

- public institution financially autonomous, with a Board comprising representatives from central and local public powers, and from port users/customers, working with commercial accounting principles;
- joint-stock company, with a Board comprising representatives from public and private shareholders, working under common commercial law.

25. The public institution formula makes quite explicit the separation between statutory public management and monitoring duties on one hand, and commercial activities left to the private sector on the other. Port users/customers would have to be represented in the Board, with the shortcoming that nobody having a direct financial stake in the port enterprise itself, parochial interests can sometimes prevail over long-time interest of the port community at large, which in some cases may include a significant part of the national economy.

26. The joint-stock company formula presents at first sight the distinct advantage of setting up a more businesslike corporate framework, where shareholders will indeed have a financial stake in the port enterprise. Even if the shareholding structure has to be predetermined in order to meet the public ownership criteria--meaning a majority of shares would have to belong to public bodies, either central, regional or municipal--one can expect this corporate setup to instill a more direct sense of financial responsibility among

shareholders. An associated issue will then relate to private shareholders. To keep up with the principle of separation between public monitoring duties and private commercial activities, private port operators would have to be barred from owning shares in the port enterprise, as the port enterprise would not be allowed to own shares in any private company operating within its dedicated area. Alternative arrangements providing for cross-shareholding possibilities are by no means impossible, but would require strong, and likely difficult to implement, conditionalities to prevent any weakening of the port's capacity to further its long term public management objectives, while maintaining equal access and treatment to all port users. In cases where port operators will be prevented from owning shares of the port enterprise, a complementary body would have to be set up, in the form of a Port Council, to allow port users to voice their views and concerns to the Port Authority. The role and functions of this Port Council will have to be explicitly spelled out in the Port Authority's by-laws.

C.3 Competition and Contestability

27. The Landlord-type Port Authority, which now tends to become the prevailing model of port operational organization, leaves the commercial operational field entirely to private operators. Since this formula is now being implemented even in ports with limited traffic levels, this raises the issue of competition conditions.

28. The concession formula, which entails allocation of a determined portion of the port area to an operator for a specific period of time, with or without the requirement to build or develop new facilities, physically affects on a continuous basis the organization of operations in the port: to establish a context for fair competition within a single port under these conditions--competition *in* the market--means being able to set up several operators with equivalent handling capacity to serve the same traffic. While this may be possible in large multipurpose ports, this may prove difficult in most of the ports the Public sector may have to deal with.

29. In fact, concessions will generally be implemented mostly in the cases of homogeneous traffic, which lend themselves more easily to rationalization of the operational environment: unitized cargoes (containers, roll-on/roll-off traffic), industrial bulks (ores, cement, grain, petroleum products and other liquid bulks). Industrial bulks terminals will generally be part of integrated industrial processes, which makes them natural candidates to be concessioned to the main industrial operators: actual competition takes place at another level, on the output side. Container or roll-on/roll-off terminals are much more subject to direct competitive pressures at the transport level, provided however there is enough traffic through one single port to set up a competitive environment, as in Rotterdam (The Netherlands), Hong-Kong (China), Buenos Aires (Argentina), or Laem Chabang (Thailand).

30. Where the traffic level is such, at least at the time when the concession is considered, that it would just support a single operator to ensure financial viability--100,000 teus/year or below for container terminal operations, for instance--the situation comes close to a natural monopoly situation, where competition *for* the market can take

place. This will require a clear regulatory framework to be enforced by the Port Authority. However, even in this case, two kinds of situation may occur:

- either there is competition between alternative transport routes involving different modal combinations, and possibly using foreign ports (Baltic Countries/Finland/Russia, Poland/Germany), in which case the lack of competition within the port itself is not so much of an issue, and the corresponding regulatory framework needs not being overly developed;
- or the traffic is actually captive, which creates a monopoly situation which will require careful regulatory action, including productivity and tariff controls, to avoid rent-seeking development. In addition, the concession contract should be open again for rebidding at regular intervals, the time frame being defined according to the depreciation period of the assets the concessionaire has been requested to finance.

31. In this latter case, the role of the Port Authority, as far as the growth in traffic would allow for it, would be to make room for another competitor to step in as soon as the traffic level would make it viable. Usually the first concessionaire will try to protect itself against this eventuality by building safeguards in his concession contract, and the Port Authority will have to carefully check that these proposed safeguards do not go over what can be considered as a reasonable protection to start up a new operation, without granting exclusive traffic rights. On a complementary fashion, it would be highly advisable to foster the development of a countervailing power among port users and customers, on the ground that the formation of a monopsony-like interest group in front of an existing monopoly is about the closest proxy to a competitive market. To institutionalize this countervailing power, participation of port users and customers to the Board of the port enterprise, when possible, should be encouraged, and when not possible because of the corporate structure (see para.26), a Port Council made of port users, with specific attributions and powers spelled out in the port enterprise by-laws, should be set up.

32. However, concessioning is not the only way to bring the private sector into commercial port operations, in particular in the case of medium to small scale multipurpose port facilities. These ports will generally handle limited levels of general cargo traffic, sometimes mixed with a small proportion of containers or unitized cargoes. Assuming 250,000/300,000 tons of general cargo would be a minimum for an independent cargo handling company to be financially viable, including heavy equipment costs, this would put the floor for possible competitive concessioning around one million tons of general cargo per port. Below this level, the Tool Port formula may appear appropriate in such instances, meaning the Port Authority would remain responsible for providing the main ship-to-shore handling equipment--usually light to medium multipurpose cranes--while cargo handling would be carried out by private companies under licenses given by the Port Authority.

33. Under this operating scheme, the port operational areas remain open to all licensed operators, who may just rent warehouse spaces according to variations in their customer base. The private operators, who own and operate all yard equipment, will compete for

cargoes through contracts negotiated with the ships or shippers' agents, and the Port Authority will have to ensure that safety regulations are complied with. In granting licenses, the Port Authority should refrain from spelling out operational technicalities, such as number and type of equipment to be used, which should be left to the operator's choice. However, the Port Authority would grant licenses under conditions of minimum productivity performance, and reasonable financial guarantee. To maintain the competition viable, the Port Authority may also decide to limit the number of licensees, as long as the productivity remains acceptable.

34. The public Service Port itself can actually offer a scope for private provision of services. Although the combination of low traffic and the social requirement to keep the transit cost low will usually preclude any short-term financial profitability, public authorities can still look for private operation of the port facilities under a management contract, whereby the operator will be paid a management fee to operate the port under specific conditions in terms of tariff, operating and maintenance practices. Although there is no real transfer of commercial risk to the operator, it is however possible to build in efficiency incentives by indexing part of the fee to cost-effectiveness indicators in the management of the facilities. An alternative option would be the "negative concession" scheme, as already successfully experimented in various public transport operations, where a concession would be awarded to the operator requesting the lowest subsidy, under the same set of operating and tariff conditions. A larger risk is then transferred to the operator, which will be under pressure to increase port throughput to maximize its revenues. Passenger ferry services between Scotland and the Shetland Islands were awarded in April 1997 for a five-year period to a P&O subsidiary using this formula.

C.4 Governance and Regulation

C.4.1 Sector Legal/Institutional Setup

35. To provide for a clear separation of policy and regulation responsibilities at both the central and local levels, very often a three-tier institutional pattern will prove to be quite an effective solution. Under the assumption that the ports will evolve towards a landlord port setup, with commercial activities fully carried out by private operators, the new public management framework could then be devised along the following lines:

- ⇒ a central body at the ministerial level, comprising top representatives from relevant ministries, mayors of port cities, and Port Authorities managers, works out national port policy and strategic planning objectives, and defines main sector regulations to be enforced by the Port Authorities;
- ⇒ the Port Authorities, autonomous public institutions or public joint-stock companies, are granted the right to use state-owned land, administer, maintain and develop port infrastructure assets to the extent required by port activities, manage and enforce navigation safety measures, enforce environmental protection regulations, monitor the concessions and leases contracts governing private sector activities in the port area, and market the port facilities to attract new investors;

⇒ the private operating companies carry out commercial activities related to cargo traffic management and handling.

C.4.2 Legal Framework for Private/Public Partnerships

36. To ensure credibility, openness and transparency in the transformation process, a sound and precise legal framework defining how private/public partnerships can be set up and organized appears as a prerequisite to get international participation and long-term financial commitments from potential investors. In particular, prior to any kind of Build-Operate-Transfer (BOT) operation, a concession law spelling out the principles of the process and establishing rules and responsibilities for each party, possibly complemented by a set of regulations describing the practicalities of the approach, will be a significant step towards the success of forthcoming concessioning operations.

37. Since there are also other ways than concessions of securing private participation in port activities (see para.32), the national legal framework for private/public partnerships must also incorporate these formulas, or at least establish which entity will be responsible for monitoring them. The basis of the licensing process, for instance, must be made clear in the law, which can specify that port authority regulations will further precise implementation criteria, along the lines mentioned in para.33.

C.4.3 Regulation Policy

38. Regulation typically involves both economic and technical issues. Economic regulation, which usually aims at monitoring tariff and pricing policies, is all the more necessary than competition is weak or sometimes still inexistent. But conversely, as soon as competition develops, either internally or externally (see paras.29-30), the need for strong economic regulation decreases. Indeed, when competition pressure is well established, there is no reason to maintain any constraining pricing regulation, other than a timely monitoring of tariff practices to assess the soundness of market processes and prevent any potential collusion from developing among competitive service suppliers.

39. Technical regulation is required to ensure compliance with generic safety, labor, and environment protection standards, as well as to implement what the Port Authority may believe to be appropriate minimum performance requirements, in particular when competition is weak. Traffic safety is a major concern with ship movements in and around port mooring and berthing areas, and with cargo handling operations ashore. Dedicated provisions for handling and storage of hazardous cargoes must be spelled out in port regulations, based on international conventions (International Maritime Dangerous Goods-IMDG Code) and making allowance for specific local conditions. Environmental protection standards will also have to address the different potential environmental risks pertaining to local port activities.

40. An issue of particular importance in getting the balance right between explicit regulation and implicit market forces has to do with public information disclosure policy. Traditionally, there is in almost all cases a natural asymmetry in information between

operators, public authorities and port customers, at the expense of the latter. And since public pressure, when based on reliable information on costs and service quality, has always proved to be quite a strong incentive to perform efficiently and to eliminate rent-seeking practices, an explicit public disclosure policy, making mandatory the release by port operators of relevant productivity and cost-effectiveness indicators, may well help in keeping with optimal efficiency in commercial port operations, without having to rely only on heavy-handed economic controls. These information disclosure requirements should therefore be included into all concessioning and licensing agreements.

41. Other critical decisions in regulatory design are from where to regulate private port activities--central versus local authorities--, and where to locate specific regulations--universal administrative regulation versus contract-based regulation. While it would seem logical to have the nationwide policies on traffic safety, environmental protection, labor and competition rules, designed and adopted at the central level, their implementation would as logically be the mandate of the local landlord-type Port Authorities. These Port Authorities would also design and implement locally warranted operational regulations depending on specific traffic or local constraints. In the case of medium to long-term concessions, contract-based regulation, where rules, implementation and enforcement means are provided for in the concession contract itself, seems to be the more adequate vehicle to ensure and monitor compliance, under the supervision of the Port Authority. For more short-term contract or authorization, like working licenses, the standard regulatory set enacted at the ministerial level, possibly locally completed by the Port Authority, would apply.

C.5 Trade Globalization and Transport Networks Integration

42. Globalization of trade and the development of larger trade areas have led to shipping and intermodal alliances to handle the global nature of the supply chain. Shipping companies have merged, with P&O/Nedlloyd and Neptune Orient Lines/American President Lines just recent examples, expanding their geographic reach to create global service networks. Similarly, terminal operators have kept pace, globalizing operations to offer their shipping customers consistent services over diverse trade routes. P&O, either through the mother company or the Australian subsidiary, is operating 22 container terminals worldwide, in Australia, the Philippines, India, Malaysia, China, Argentina, Mozambique, and the UK. Hutchinson Port Holdings (HPH) now operates 17 terminals in Indonesia, China, the Bahamas, both sides of the Panama Canal, and the UK. Stevedoring Services of America (SSA) operates 13 terminals in Mexico, Panama, Thailand, India and Indonesia. PSA Corporation, the government-owned operator of the Port of Singapore, operates 9 terminals in China, Cambodia, Indonesia, India, Thailand, Vietnam and Yemen. International Container Terminal Services Inc. (ICTSI) operates 7 terminals in the Philippines, in Argentina and in Asia. Altogether these 5 major terminal operators today hold more than 25% of the world port container handling market, with HPH and PSA Corp. topping the list with close to 10% each.

43. Activities of such companies as P&O, HPH, PSA Corp., SSA and ICTSI are a clear indication of a new trend towards increasing internationalization of terminal

operations. In terms of number of containers handled worldwide, HPH counts among the largest private operators in the world with more than 13 million TEUs handled in 1997. Actually, the top ten private terminal operators handled 14 % of the world container traffic in 1994. In 1997 almost 15 % of the world container traffic has been handled by the top four private terminals operators alone (PSA Corp excepted, being still government-owned). Hence the thrust towards enhanced global network management practices by shipping and terminal operators alike, which is putting increased demands on intermodal land interfaces so as to make available as large an array of transport routes as possible, and to benefit from the resulting increased flexibility in management of international transport operations.

44. Modern and efficient ports are necessary and powerful tools for facilitating and fostering trade and development and more so at a time of globalization of trade. Nowadays, ports must offer efficient and reliable services to ships and cargo, including communication systems, documentation and customs procedures, to allow the timely flow of goods through the transport chain which has, in fact, become a production chain. To assist in this flow, some countries have developed distribution or logistics centres in the port area which are used for the storage, preparation and transformation of cargo. Therefore, ports are no longer simply a place for cargo exchange but are a functional element in the dynamic logistics chains through which commodities and goods flow. An efficient transport system is also a pre-requisite to attract foreign direct investment. Ports can be a crucial element in developing a competitive advantage for a country and therefore governments and port authorities need to adopt suitable port policies to allow the nation to reap this potential benefit. In this regard, it is worth noting, for instance, that despite the regional crisis in Asia, Singapore's transport and communication sector grew 5.5 % in 1998, while manufacturing was stagnant.

45. The intermodal integration of distribution activities is consequently utilized to facilitate business transactions that move goods from origin to destination. The major objectives of intermodalism are to increase the speed of goods distribution and reduce the amount of unproductive capital, whether in inflated inventory levels, inactive railcars or vessel delays at ports. Intermodal operations make use of long-distance inland transport services which greatly extend the hinterlands of ports. For example, American President Lines (APL) offer shippers in Asia and the US an intermodal system over the land bridge across the United States using articulated railway wagons that permit the carriage of containers stacked two high. This arrangement allows containers to be delivered to destinations on the east coast of the US 72 hours after being discharged from vessels on the west coast, which is four to six days faster and less costly than the all-water route. In 1986, there were 62 double-stack container trains, each carrying 400-560 TEUS, departing ports on the west coast of the US on a weekly basis. Today, 100 depart the Seattle-Tacoma area each week, and this is expected to grow at approximately 8% per year. The stack train and EDI systems developed in the US provide a technological basis for intermodal operations, but the institutional framework which is evolving in Europe to facilitate the uninterrupted movement of goods between countries with different legal regimes will probably lay the groundwork for its rapid extension throughout the world.

46. More generally, ports today are called to play an economic role that proves to be far more extended than it used to be previously. After having been at first merely an interface location for cargo between land and sea transport, next a transport, industrial and commercial service center, the modern port is a dynamic node in the international production/distribution network. Port management appears therefore switching from a rather passive policy of the mere offer of facilities and services to that of active concern and participation in the overall international trade process. These efforts are therefore directed towards promoting trade and transport activities that, in turn, generate new revenue-making and value-adding businesses. As a result, ports are more and more turning into integrated transport centers and logistic platforms for international trade. But, as experience already shows, this is easier said than done, and the public sector responsibility in helping this happening--or in hampering it--must not be overlooked.

C.6 New Trends in Shipping and Logistics

47. Simultaneously, efficiency of inland transport to serve an increasing, and most often disputed hinterland, has become a critical factor of the ports potential future, as well as of overall trade growth prospects. Today's global logistics organization makes it mandatory for shippers worldwide to be able to rely on seamless transport chains, of which the port is a prominent node. Smooth interaction between the port and the city often surrounding it, in terms of transport networks requirements, environmental protection, and overall safety, therefore appears a prerequisite for effective delivery of integrated logistics services. Quick and safe access to port facilities from inland transport networks becomes a basic requirement to be met in all cases. But this does not happen without calling into question the way both the port and the city are organized, managed, and the way public transportation infrastructure is planned and financed.

48. The transport chain is today fully integrated within the production system, and as far as international trade is concerned, within the trading pattern itself. This is a concept under which the transportation/distribution activities are considered as a sub-system of the whole production system. In a traditional industrial society the transportation chain of goods from the producer to the final user was normally divided into several parts. Shippers rarely cared about onward transport matters in the receiver's country and receivers paid little attention to the pre-forwarding costs before their goods reached the ship's rail. This is no longer the way people look at their cargo transportation today. It is now the integrated transportation chain which matters. From the buying of raw materials at the production site to the delivery of products to the receiver's warehouse, production, transportation, storage, distribution, information, are all integrated into one unique network.

49. This production-driven need for an integrated transport chain has led to intermodalism. The major objectives of intermodalism are to increase the speed of cargo distribution and reduce the amount of unproductive capital, whether in inflated inventory levels, inactive railcars, or vessels delays at ports. Since new trade patterns require quicker, cheaper and safer transport of goods than in the past, the main obstacle was found to be at each transport mode interface, which caused delay and increased the cost of the

whole transport chain. This is a point where the interaction of ports and cities traffic management policies can make a difference, and we will get back to it later. Modernized port facilities themselves are only part of the solution, and inland distribution networks have to be improved and well integrated with ports at the same time, both at the local level for efficient direct access connections, and nation or regionwide.

50. The concept of logistics is now widely accepted. Logistics, in short, is a procedure to optimize all activities to ensure the delivery of cargo through a transport chain from one end to the other. In order to optimize the whole system, the logistic approach is to decide when, where and how actions should be taken. The key elements to develop an advanced logistics strategy will usually include:

- Understanding the cost behavior of the entire logistics systems and incorporating it into off-shore sourcing and manufacturing decision making;
- Promoting strong relationships with carriers and vendors that include quality certification procedures;
- Designing a flexible transportation system that allows for quick routing and mode selection changes;
- Developing a supportive logistics information system that is effectively integrated with manufacturing and purchasing processes.

56. Beyond their original need for large operational areas, stemming from the technological evolution we mentioned earlier, port will have to face the two main problem areas of **space** and **accesses**. **Space** will have to do in the first place with the new logistical functions ports have now to undertake to keep up with the requirements of international trade. There is a significant number of activities which can be classified as value added services in the field of logistics. It is therefore useful to give an overview of these activities and an insight into their functions and relations. Value added services can roughly be divided into logistics activities strictly speaking, and general value added services. The logistics activities themselves can fall in two categories:

- **General Logistics Services:** storage, loading/unloading, stripping/stuffing, groupage, consolidation, distribution
- **Value Added Logistics (VAL):** repackaging, customizing, assembly, quality control, testing, repair

General value added services will include such services as equipment maintenance, equipment renting and leasing, cleaning facilities, tanking, information/communication, safety, security services, offices.

57. A sustained tendency can be observed towards a growing importance of VAL activities. Producers are concentrating on their core business in line with customers

demand for high quality specialized products. New players in this field appear: the logistic services providers. These parties take over parts of the production chain (assembly, quality control, customizing, packaging, etc.) and of the after-sales (repair, re-use). Undoubtedly, containerized and general cargo have the highest VAL-potential. The challenge for ports is to offer the possibility to welcome these activities and services.

58. When grouped together in a common dedicated area, *General Logistics Services* and *Value Added Logistics* activities become what is sometimes called a **Distripark**. Rotterdam in the Netherlands, Wakefield in the United Kingdom, Verona in Italy, Bremen in Germany are examples of this kind of arrangement. General cargo ports are generally a preferred choice to set up distriparks, since they are already intermodal transport nodes and main traffic gateways. But such a facility demands significant space: actual requirements will obviously depend on the traffic nature and volume, but usual figures show existing distriparks ranging from 50 to 100 ha, with 20 to 50 separate companies, the average company plot size reaching 24,000 square meters. So when considering the implementation of this kind of facility, the port and the city must obviously work together to find out the most adequate land-use plan meeting both the port logistical objectives and the city development concerns.

59. But logistical services are dynamic activities, and they generate significant traffic flows. Average truck movements per day in European distriparks range between 3,000 and 4,000. So accesses to the distripark, and connections between the distripark and the port, must be properly designed to accommodate such flows. Needless to say, it would be highly advisable to make every attempt to keep this traffic from merging with local urban traffic on city streets. This objective will again call for close cooperation between the port and the city on access design and implementation.

60. On the management side of these logistics facilities, it would seem that port authorities, now evolving worldwide towards the landlord port model, and therefore withdrawing from direct commercial operations to concentrate on their core public statutory duties, could well be the most suitable body to initiate the planning and implementation, then the marketing and the management of distriparks. Due to obvious common concerns, port authorities and municipalities could also form together specific companies to develop and promote these activities.

61. As has already been mentioned, **accesses** are critical to the success of any logistical center. As a matter of fact, accesses are critical for the port itself, with or without a distripark. This is indeed a pervasive issue today in many ports worldwide. In many countries, to make things worse, priority in land access to ports was often given prominently to railways, at the expense of road traffic. This was specifically true in former centrally managed economies, like in Eastern and Central Europe. So with the pronounced shift towards road transport now taking place in these countries, the limitations in road access to ports quickly became one of the most conspicuous bottlenecks of the transport sector.

62. A potential way for cities and ports to address together the **space** constraint, while still offering the global logistical services the market expects, could be to manage **space** and **accesses** in a more dynamic way than was previously thought possible. Most logistics services, if they can benefit from being carried out close enough to the port, do not need to take place physically in the port itself. In fact, it will often be preferable to set up the logistics services area outside the port itself, where it will be easier to find adequate land available at a reasonable cost, the main criteria being easy connections with the different land transport modes. Of course, the connection with the port will remain the critical issue to make the whole system work, but in many instances solving this specific connection problem may well prove to be cheaper, or to make more economic sense for both the port and the city, than to try to expand port land at high cost: the traffic generated on this expansion would require higher capacity accesses anyway, and would just concentrate the traffic management problem at the single port/city interface.

63. This consideration leads to the development of inland logistics centers, or dry ports, inland container depots (ICD), where all logistical operations not strictly requiring to be carried out in the port itself can take place. The concept relies therefore on the possibility to shuttle goods between the seaport and the dry port as efficiently as possible. Examples of this arrangement include the Sao Paulo Dry Port in Brazil, the recently opened Manila Inland Container Depot and rail link of ICTSI in the Philippines, the Harbin Inland Port and Harbin-Dalian rail link in China. Of course, beyond the sheer physical link between the two locations, the concept also supposes appropriate regulatory arrangements, in particular with customs, to allow for quick removal of imported goods from the port grounds, final clearance procedures taking place at the dry port, or even later at the receiver's place.

64. So it is surely fair to say the future of ports will hinge more and more on their capacity to develop their offer of logistics platforms, associated with their regular transit operations. And as we just mentioned, this capacity will likely depend in turn on the arrangements ports can reach with their home cities in order to provide adequate infrastructure connections between the port area and the inland platform.

65. Laying the groundwork for these logistics activities to develop will definitely remain within the public sector, as part of what we can call the *facilitation mission* of public transport authorities. It would consist first in planning, designing, and financing the basic infrastructure, mostly connections and maybe land preparation to make it possible for private logistics providers to settle down and operate. Since we mentioned earlier that Port Authorities may be well-suited to take the technical lead in these operations, and since cities are obviously their privileged partner in these undertakings, a mixed port-city company could be a vehicle to implement this kind of program.

66. Therefore, the need to address the issue of transport as a major element in a country's external trade competitiveness makes it mandatory to take a comprehensive look at the interfaces management between transport modes. The port usually being a critical node in international transport systems, its integration in a country's transport networks

supposes that the following questions, very much of a public nature, have been appropriately taken care of:

67. ***Physical Integration:*** the quality of road, rail, and inland waterway connections are critical factors of port efficiency. Whatever the institutional setting is for management and operations of port facilities, the responsibility for provision of these physical accesses will normally remain with the public authorities, local or national. Beyond immediate access to port areas, integration of the sea-land interface with inland transport modes may also entail setting up of dry terminals inland, like inland container depots (ICD), which will also require appropriate intermediate transport infrastructure, and, may be as if not more importantly, adequate regulatory setting, in particular for customs procedures. Port Authorities, having withdrawn from direct involvement in commercial operations, may well become prominent actors in fostering the development of these inland terminals, which will help in making efficient use of the port facilities themselves: by increasing transit speed through the port area, and transferring clearances and dispatch operations to an inland site usually less expensive to set up and operate, it will reduce the need to expand operational capacity at the sea-land interface itself, which requires in most cases significantly greater investments than an inland location. As a node in the transport system, the Port Authority is also likely the best possible player to investigate the needs for these developments, including inland access connections, and would have to stimulate actions from the public authorities to spearhead appropriate investments programs and corresponding regulatory amendments.

68. ***Regulatory Framework:*** trade facilitation aspects, such as streamlining export/import documentation, simplifying and adapting customs regulations and procedures so as to allow traffic flows to make efficient use of infrastructure facilities, instead of having to expand facilities to cope with procedures, developing electronic data interchange (EDI) and associate facilities, are among the prerequisites for a seamless international freight transport pattern to develop. Updating existing legal frameworks, to give recognized legal status to professions like freight forwarders or multimodal transport operators, is also sometimes required to allow efficient intermodal operations to be implemented. In this respect, port customers and representatives of the transports community should be given the possibility to become members of the Board of public Port Authorities or of the Port Council, as the case may be, which would ensure the availability of a statutory channel to forward to policy makers the views and concerns of the professional community.

69. ***Performance Standards Information:*** the public authorities, and in the first place the Port Authorities, must collect and update on a regular basis international operational data on port activities, and establish their own performance standards accordingly. Main reference indicators, which should in particular be used to monitor private concessions, shall include cargo handling productivity by cargo categories, average cargo dwelling time in port--in particular for containers--, and as far as efficient use of infrastructure is concerned, congestion rate of berthing facilities, illustrated by ship waiting rates (waiting time/time at berth). All concession contracts must include provisions making mandatory

the transmission of comprehensive operational statistics to the Port Authorities on a regular basis, as part of the public information disclosure policy referred to in para.40.

C.7 Strategic Planning

70. Forward looking planning will remain a critical responsibility of Governments in the transport sector in general. To ensure that national economies can achieve optimal competitiveness on external trade markets means implementing and maintaining a cost-effective transport system, with the port interface ranking high in international trade-related issues. The central body described in para.35 would be in charge of taking this long-term view when devising national waterfront development plans.

71. However, following on the physical integration requirements mentioned in para.67, allocation of land not only for prospective development of port facilities, but also for establishment and expansion of transport corridors linking ports to inland transport systems, must be at the forefront of public authorities' agenda when devising future land-use programs. And this will have to include as well the need to reconcile the various stakeholders' interests in the long-term development of coastal areas within the framework of a national Integrated Coastal Zone Management (ICZM) policy (para.74).

C.8 Environmental Protection

72. Environmental protection management in ports includes several specific components, which can be grouped according to the following distribution: (i) impact of marine structures; (ii) ship waste management; (iii) dredging activities; and (iv) accidental pollution.

- ***Impact of Marine Structures:*** these are of two kinds, short term or long term impacts. Short term impacts are those linked to immediate interaction of structures components with port waters, like effects of antifouling paints on steel piles, which can have detrimental consequences on local marine fauna. Long term impact are those coming from lasting disturbances to the coastline balance brought about by the construction of new facilities, in particular breakwaters. By disrupting an existing sand littoral drift, they may result in beach enrichment upstream of the port, and coastal erosion downstream. Both can be dangerous: the former may result in siltation in the port accesses, and therefore require dredging, the latter may see the coastline receding, sometimes endangering human settlements and threatening seashore ecosystems. Appropriate arrangements must be worked out at the project design stage, which will often require physical modelling, to decide upon the mitigation measures needed to stabilize the coastline and counteract the impact of the new construction, while protecting the most vulnerable coastal areas.
- ***Ship Waste Management:*** the MARPOL international convention makes it mandatory for ports to make available collection and treatment facilities to handle ship generated waste. The International Maritime Organization (IMO) published in 1995 a comprehensive Handbook on Port Collection and Treatment Facilities, which should

be proposed systematically as a basic reference to deal with this issue in any Bank-financed project.

- ***Dredging Activities:*** capital and maintenance dredging may have several impacts on the marine environments. Estuaries are particularly sensitive areas, where any artificial deepening may result in lasting modifications in the natural ecological balance. Salt intrusion is the single most important impact: increased salt penetration in a river estuary may pose a threat to neighbouring fresh water tables and corresponding agricultural areas; and following salted waters, a new fauna may develop in the estuary and modify the existing fauna and flora equilibriums. Finally, disposal of dredged materials must be handled with due consideration given to any possible contamination. The London Dumping Convention spells out the maximum acceptable levels in connection with specific disposal options.
- ***Accidental Pollution:*** Oil spills are the most common threat, and in accordance with the MARPOL convention, ports handling oil products must be equipped with appropriate equipment to fight and contain any accidental spill within the port area. Countries signatories to the MARPOL convention--and to the OPRC treaty on oil pollution preparedness, response, and co-operation--must also maintain adequate response capacity to an oil spill emergency, and have a national oil emergency plan spelling out the ways and means to tackle any accidental oil pollution. Regional emergency plans are in fact highly advisable: beside ensuring regional consistency in addressing pollution emergencies, they would also allow for shared equipment and resources pool, all the more important that availability of concessional financing will generally be limited on a country basis.

73. Specific attention must also be paid to arrangements made to safely handle hazardous cargoes on land, and in particular on the port areas. This can entail establishment of appropriately protected confinement areas, and preparation of adequate regulation to ensure proper handling and transit of such shipments.

74. Finally, care should be taken to include the management of port environmental issues within the broader scope of an integrated coastal zone management approach (ICZM), which would encompass all aspects and uses of coastal areas, and help devise the best strategies to minimize the environmental hazards linked to maritime transport and port activities.

D. Implementing Reform: Risks, Benefits and Beneficiaries

75. Today, there is practically no such thing as purely public infrastructure projects any more in countries organized under liberal market economy principles. In most cases, so called “ public projects “ include a strong dose of private intervention. For instance, private contractors build infrastructure; operational equipment is furnished or sold by private firms. Symmetrically, purely private projects are still constrained, controlled, regulated by public organizations or entities, which retain the rights of approving lay-outs,

prescribing norms, imposing levels of service, enforcing competition rules, or safety standards, setting or approving fares and rates, or tolls, and so on.

76. We can thus say that all of us all live, almost everywhere in the world nowadays, under the P.P.P. paradigm: the Public Private Partnership model. Now for all practical purposes, the effectiveness of the formula hinges on what the partnership concept means, and on what it suggests as implementation methods and principles, and on how to effectively share benefits and risks.

77. Precisely, it is true, though, that, in the last ten or twenty years, the level of private intervention in traditionally public projects has increased widely, through a multiplicity of processes, from full privatization of former public entities, at one end, to the transfer of management from public to private, at the other end, passing through various forms of concession-type agreements, including all variants of BOT, BOOT, BOO etc.

78. It may seem trivial to state that the key to a successful outcome in all these different kinds of projects lies, for an important part, in an appropriate distribution of risks and responsibilities between public and private actors. But as it turned out, as for many other widely accepted principles, it might sometimes be easier said than done, and mistakes or uncertainties left unaddressed early in the process may well cost dearly during the implementation and operational stage, with sometimes both parties being affected.

D.1 Risk Management Principles

79. The basic principle, which is expected to be widely shared, is that each partner should manage the risks it can best handle. Now let's take a look at the usual suspects when it comes to the main hurdles in the way of private investments in infrastructure assets:

- weak institutional/regulatory framework
- long-term sovereign risk management
- assets economic depreciation period vs. short-term financial return objectives
- weak domestic financial markets.

80. Most of these will result in an increased risk perception, which in turn will ask for appropriate risk coverage in term of interest premium on the cost of financing. The consequence in terms of cost recovery objectives may sometimes just make the project impossible to implement, at least in a marketable or socially acceptable fashion.

81. This situation translates into what is usually felt as a higher cost of capital for privately-financed projects than for publicly-financed ones, although this perception remains very questionable: the apparent lower cost of public capital mainly stems from the fact that the taxpayers provide a free repayment guarantee for any lender to a sovereign government. Should this guarantee be priced on a market basis, the difference would likely be significantly reduced, if not erased.

82. So, bearing in mind the motto of any reasonable banker facing a financing proposal--'everything which can go wrong, will go wrong'--facilitating private sector investments in infrastructure projects will have to do mostly with *risk enhancement* and *credit enhancement* vehicles.

83. Typical risks in an infrastructure project can be categorized as follows:

- Project Risks:***
- (i) *Commercial Risks:* customer base and prospects, price sensitivity, demand instability, early obsolescence due to technological advances;
 - (ii) *Construction Risks:* inadequate project design, insufficient technical experience of participants;
 - (iii) *Operating Risks:* quality of project and operations management, adequacy of pricing policy, effectiveness of revenues collection.

Political and Regulatory Risks:

- (i) Potential conflicts among different governing bodies (central vs. regional or local);
- (ii) Adequacy of the legal framework and risk of change in the legal and regulatory environment;
- (iii) Price setting policy;
- (iv) Enforceability of contracts;
- (v) Risk of change in economic and political orientation;
- (vi) Redistribution/Public good management issues;
- (vii) Ex-post contracts renegotiations.

84. But it is also possible to consider an alternative risks classification, between *Objective* and *Subjective* risks, which will call for different mitigation tactics:

- Some risks will be defined as *objective* because they originate in a random event, such as those derived from shocks in demand or those affecting construction and operation costs.
- Some risks will be defined as *subjective* because they originate in the behavior of a participating agent. Typical examples are changes in regulations that may affect the income generating capacity of a project.

85. The distinction between objective and subjective risks is important because the former can only be insured, while the latter can be reduced or eliminated by correctly defining the incentives schemes each participating agent faces:

- Allocating the objective risks means finding the best devices for risk sharing among the participating agents while possibly insuring part of the risks through external parties.
- Allocating the subjective risks means defining the best set of contracts to give the right incentives to each partner, taking into account each partner's skills and know-how, his risk aversion and his reputation for sticking to its commitments.

D.3 Benefits Distribution

86. If the rationale for institutional reform in the port sector is not strongly questioned, how to make sure the expected benefits go where they were intended to is another issue altogether. Typically, expectations can be summarized as follows for the main stakeholders:

- ***Governments:*** at the macroeconomic level, to improve external trade competitiveness by reducing transport costs, and in particular the cost of port services, and improving port efficiency at the sea/land interface; at the microeconomic level, to alleviate financial burden on national budgets by transferring part of port investments and operating costs on the private sector, and incidentally, raise revenues from assets divestitures;
- ***Transport and Terminals Operators:*** more cost-effective port operations and services, allowing for more efficient use of transport assets and better competitive positions on transport markets, and more business opportunities in growing sectors (f.i. container operations);
- ***Shippers, Exporters/Importers:*** reduced port costs, and as a consequence of more efficient port operations, lower maritime freight rates, allowing lower cost of imported inputs and better competitiveness of exports on external markets; and
- ***Consumers:*** lower prices on consumer goods, and better access to a wider range of products through increased competition between suppliers.

87. In countries where port sector reform has already been largely implemented, Governments have usually achieved most of their expected benefits in terms of productivity and cost-effectiveness of port services, and reduction of the financial drain on national budgets: Malaysia, Argentina, Columbia, and now Brazil are telling examples, with productivity of container handling operations improved between two and fourfold, and handling costs reduced between 40 to 70%. Port reforms in Argentina have sought to deregulate, decentralize, and privatize. And they have sought to introduce competition not only among ports but also for the ports—by inviting operators to bid

for port concessions—and within the ports—by dividing large ports into terminals and offering each as a separate concession. Bidders were asked to set their own charges, subject to a maximum price cap for cargo, and concessions were awarded on the basis of the highest rental offered for the infrastructure and equipment. The results have been generally positive, with increased productivity, higher cargo volumes, and big reductions in tariffs. Moreover, partly as a consequence of these reforms, coupled with shipping deregulation programs, freight rates between South America and North America and Europe, for instance, have decreased by up to 50%.

88. Investments by private terminal operators and shipping lines have also gone a long way into reducing significantly public investment in new port assets—private investments in the range of US\$100 to 200 million are frequent when developing or modernizing container terminals—, while concession contracts usually offers reasonable profit prospects for operators. It is estimated there are at end-1998 around 100 port concessions contracts signed worldwide (most in containers terminals, with grain, coal and liquid bulk facilities accounting for the rest), for a total estimated private investment amount of US\$ 6.3 billions.

89. Shippers, importers/exporters and final consumers are benefiting from the changes to various degrees, depending on the competition conditions on the waterfront and on the shipping side. A typical, and more and more pervasive debate, pertains to the THC scheme, and to what extent it allows shipping lines to divert to their profit part of the cost savings generated in cargo handling operations on land. Shippers often contend that while stevedoring costs are indeed contained or even decreasing because of rationalization efforts, part or most of the savings are in fact captured by the shipping lines through the Terminal Handling Charges (THC) system, whereby the shipping lines charges to the shipper the supposed cost of cargo handling on shore, and pays directly the terminal operator. The low level of freight rates on a number of traffic segments, in particular general cargo and containers, reinforces the belief that shipping companies are making up this loss of revenues by confiscating most of the cost savings achieved in the cargo handling area on land.

90. The last documented example of this issue comes from Singapore, where the Singapore National Shippers Council (SNSC) recently released figures comparing the stevedoring charge levied on shipping lines by the terminal operator--PSA Corporation--to the THCs charged to the shippers by the shipping lines. SNSC says the lines have been overcharging shippers in Singapore by as much as 25% in THCs. The figures showed that in 1997, while PSA Corp. charged stevedoring of S\$150 per laden TEU, the lines levied a THC of S\$182 or 21.3% more. For a laden 40-foot box, the difference was 25.6%, with S\$215 for PSA Corp. and S\$270 for the lines.

91. But sources in the liner industry claim that there are many more components to the THC than merely stevedoring. The Far Eastern Freight Conference (FEFC) thus states that its THC comprises 25 elements including, on top of stevedoring, inspection and reporting of the container condition, movement of the container on/from chassis, barge or railcar. SNSC however still believes that shippers are being double charged for some elements.

92. The matter is not easy to investigate for public authorities, since these are essentially private transactions. A strong and proactive National Shippers Council, as a representative of shippers' interests in front of the shipping lines, is definitely useful to make the shippers' voice heard. Demanding a breakdown of the THCs and comparing its elements to those included in the Operator's invoice should be a way to assess any excess charge and to negotiate fairer deals with the shipping lines. On the Government's side, the only action it can surely undertake in this respect is to encourage a wider competition on the shipping side by ensuring easy market access to outsiders.

E. Implementing Reform: The Social Agenda

E.1 Principles

93. The process of port labor reform requires Governments to eliminate provisions from existing labor regimes, collective agreements and work practices, which limit or restrict the supply or demand for labor, its freedom of entry and exit, and constrain productivity. Overstaffing being a pervasive feature of most port organizations, in both the developing and developed world, adjustment to more cost-efficient structures will generally entail the requirement to significantly scale down the workforce. To achieve this result in a socially acceptable way must be a prominent concern of public authorities.

94. When possible timewise, it appears that addressing the overstaffing issue before opening up the process of involving the private sector in operations will usually facilitate the privatization process itself. There is at least one good institutional reason for that: present overstaffing situations are usually the result of governmental policies often considering port organizations as natural shelters for the unemployed. This social function devoted to ports is one main reason for the excessive expansion of port workforce in a number of countries. But since public authorities fostered this development, the same authorities have definitively a responsibility in helping dismantle the system. And a responsibility to ensure the consequences of this dismantling on port workers is properly cushioned. This supposes that adequate budgetary means and staff management skills are made available early enough in the process.

95. If the private sector is called in before this issue is resolved, and for the process to stand a fair chance to succeed, care should then be taken that (i) the private operators are allowed to adjust their workforce to actual operational requirements over time, and (ii) existing social protection provisions ensure the staff adjustment process will be acceptable: this may in fact sometimes require special government provisions to accompany staff retrenchment, possibly by complementing existing social provisions with specific sector assistance over a defined and limited period of time.

96. In all cases, this means that organizational and budgetary means must be mobilized ahead of time to ensure appropriate and socially acceptable treatment of potential staff retrenchment can be implemented. In particular, worldwide experience strongly suggests it is highly advisable, and even recommended, bringing the trade unions to the negotiation

table from the outset, when the reform program starts being devised. Actually, it appears that the only valid way to build confidence in the process while incorporating in it lessons of experience and market-oriented concerns is to broaden the sphere of participation and responsibility to include port users, port labor and port and maritime employers. Such a broad participation will allow all stakeholders to share common concerns about competitiveness of port services, and a better understanding of how any weakening of this competitiveness would be detrimental to all, and in particular to the workforce which would be the first to bear the consequences of reduced economic activity, both inside and outside the port. Significantly, the International Transport Workers Federations (ITF), understandably cautious about the social consequences of port reforms, does not deny the necessity to improve port effectiveness through increased private sector participation, but insists on the necessity to involve labor unions from the start, so that acceptable schemes can be worked out to make the whole process both economically and socially sustainable.

E.2 Implementation Strategy

97. A port labor reform implementation strategy has to address the problems involved in finding alternative employment for redundant dock workers, ensuring the security of retirement and health benefits, and setting up retraining programs. Several schemes can be simultaneously implemented to address these issues, each of them requesting specific financial support, which the Bank can now provide within its investment lending operations:

- ***Voluntary Retirement:*** this will imply financing the wages gap, including social contributions, between the actual and the legal retirement age, when regular social benefits would take over. Depending on situations, ages as low as 50 might be considered.
- ***Indemnity Payment for Voluntary Departure:*** theoretically, such a one-time payment provides the employees concerned with a starting capital to open their own private businesses. Applying the rule used in most ports all over the world, the amount would be based on the number of years somebody worked in the port, each being equal to one monthly regular payment, with a ceiling of two years of basic wages.
- ***Retraining:*** this option aims at enabling people to find an alternative job in another economic branch by giving them a new qualification. It could also be combined with the indemnity payment.
- ***Workers Pool:*** a workers pool is an enterprise established for a determined period of time (e.g. two years), which has to employ all workers who otherwise would become unemployed as a consequence of the privatization process, and which manages to find new permanent or part-time jobs for its employees in other sectors of the economy. When the employee does not work, he will get a basic monthly wage from the pool. When he gets some work, he will be paid according to the wage regulations of the contractor hiring him. Any worker who gets a new regular job will be automatically dismissed from the workers pool, notwithstanding the wage level. A sensitive point

can be that prospective employers, private stevedores for instance, might come to prefer to use the workers pool's service rather than hiring their own staff, and therefore refrain from employing as much people as they would require. The usual way to solve this conflict is a tariff setting, which after a transition period of say, three months, makes an employee out of the workers pool more expensive than regular employment. Such a tariff system is justified by the costs of the workers pool. Combined with the retraining option, such an instrument may help find out alternative employment opportunities for redundant staff, especially when it can be expected that the activities of new private companies will pick up and therefore require over time additional staff.

98. Apart from retrenchment programs, compensation systems for staff retained in new port organizations must allow to the extent possible for dynamic incentives schemes aiming at mobilizing staff innovation capacity and improving work productivity. This will call for operational performance targets to be defined at all hierarchical levels, with corresponding accountabilities clearly established beforehand. Flexibility in staff and compensation management will obviously be a prerequisite for such scheme to be effectively implemented.

99. Moreover, professional training and continuous knowledge management monitoring will be prerequisites to ensure managerial and operational staff remain on the cutting edge of their respective areas of competence, which will be a condition for sustainable competitiveness. Appropriate annual budget allocations must be assigned accordingly.

F. World Bank's Role and Involvement in the Reform Process

F.1 Principles

100. Within this context, the Bank Group approach to facilitating private sector investments in infrastructure projects can take the following forms:

- when a minimum public investment in basic infrastructure is required to reach an acceptable balance between public and private financial commitments, thus making it possible for a privately-sponsored project to proceed on an economically viable fashion, the Bank may consider providing the financing of the public part using a conventional lending instrument;
- when a prerequisite for any private deal to succeed is the establishment of a new enabling institutional, legal, and regulatory framework, or the modernization of existing conditions, the Bank will be ready to help in providing the resources needed to make the required legal, institutional and regulatory assistance available, as well as in financing the corresponding training needs of administrative staff, and, if it appears appropriate, the costs of staff retirement and redundancy programs;
- when risk or credit enhancement is a critical aspect of a proposed operation, the Bank can propose to make use of its Guarantees Program, which will seek to alleviate part of

the *Political and Regulatory* subjective risks associated with the project (see paras.101-105 below); and

- the private sector arm of the Bank Group, the International Finance Corporation, can take part in the financing package of a private investment project through lending, equity participation, or loans syndication.

E.2 The World Bank Guarantee

101. The World Bank guarantees are provided to private lenders where the demand for funding is large, political and sovereign risks are significant, and long-maturity financing is often critical to a project's viability. By covering risks that the market is not able to bear or adequately evaluate, the Bank's guarantee can attract new sources of financing, reduce financing costs, and extend maturities. The guarantee can be especially valuable where activities traditionally undertaken by the government are being shifted to the private sector but where the government and its agencies remain involved, for example as regulator. The Bank's participation as guarantor can also facilitate the transparency of transactions.

102. The Bank's guarantee is intended to act as a catalyst for private financing in developing countries. Toward this end, the Bank offers only partial guarantees, and risks are clearly shared between the Bank and private lenders. The Bank's objective is to cover risks that it is uniquely positioned to bear given its credit experience with developing countries and special relationships with governments. Private sector lenders and other partner institutions take other project risks.

E.2.1 Type of Guarantees

103. The Bank's guarantee may be either for specified risks (the *partial risk* guarantee) or for all credit risks during a specified part of the financing term (the *partial credit* guarantee):

⇒ a *partial risk* guarantee covers specified risks arising from non-performance of sovereign contractual obligations or certain political force majeure events; they are appropriate for private projects especially for 'limited-recourse financing', as in build-operate-transfer, build-own-operate and similar concession projects;

⇒ a *partial credit* guarantee typically extends maturities beyond what private creditors could otherwise provide, for example, by guaranteeing late-dated repayments or providing incentives for lenders to roll over short-term loans; they are typically used for public projects involving sovereign borrowings.

E.2.2 Benefits of the Guarantee

104. The guarantee can work to the advantage of borrowers and host governments in many ways. In some instances, the guarantee can make projects possible which would otherwise not materialize. By covering risks that the market would not bear, or would price prohibitively high, the guarantee lowers the cost of financing. More favorable regulatory treatment provided to lenders and investors--through reduced provisioning requirements, for instance--also decreases the cost of financing. Guarantees can also extend the term of lending beyond the period for which the market would normally lend--an essential consideration for infrastructure projects that require long-term debt in order to match debt service with revenues.

105. The flexibility of the guarantee allows private sponsors to choose the financial structure that best serves the need of the project. For instance, this might involve the currencies and markets they borrow in and the interest rate (fixed or floating). For a government, a partial risk guarantee reduces its contingent liability to the minimum required to make a project feasible; the private sector takes on all or a substantial part of the commercial risks. This contrasts with the traditional pattern where a government takes full responsibility for financing and thus bears the entire risk of a project.

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106. In summary, ports and terminals are facing nowadays quite different challenges than the ones they used to deal with twenty years ago. The new distribution of roles between public and private actors, in particular, calls for an appropriate allocation of duties and responsibilities, of risks and rewards, to make the global transportation system work to its best efficiency.

107. Commercial terminals handle the operational side of the business, attract and serve the traffic, manage commercial risks, relying in doing so on extended transport networks allowing them to market their services within the framework of an increasingly integrated transportation and logistics sector. Operational investments policy, transport chains organization, intermodal combinations, remain under their control, in cooperation with transport operators, which are themselves sometimes their clients and sometimes their shareholders.

108. Public port and marine authorities handle all statutory duties relating to transport operations, in particular traffic safety issues and technical regulatory matters. Furthermore, they have to make it possible for the commercial operators to unfold their activities by providing the basic infrastructure assets required, in terms of access, protection, and connection between networks. In addition, a main public responsibility remains the establishment of transparent and reliable administrative framework to handle official trade documents processing, together with the implementation, when needed, of trade facilitation improvement programs. Against this background, port authorities will also likely become major players in helping develop new logistical multimodal platforms outside the ports boundaries, by playing the catalytic role they are best placed to assume between the various public bodies involved and the private transport operators.

MHJ

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