ECLAC

Economic Commission for Latin America and the Caribbean

COURSE ON PORT MODERNIZATION:
A Pyramid of Interrelated Challenges

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ABSTRACT

The Course on Port Modernization: A Pyramid of Interrelated Challenges seeks to encourage participants to analyze a wide range of diverse factors such as markets, services, technologies and the legal environment which influence the administration and operation of ports.

I. Structural Changes: The first Module begins with a comparison of port services in 1960 and 2010. The differences between commercial exchanges of nations in international markets and in a global economy are discussed, as well as the changes in competition and product uniqueness. The options for Governments to respond to input-to-final product competition of a global economy are evaluated, as well as why market mechanisms may fail.

II. Private Participation: The initiative for private participation in public-sector ports usually arises from one or all of three sources: competition from other ports or that born by users, a political platform of the current Government, and a public outcry against high port costs, inefficiencies, robberies and the unavailability of goods. All those providing port services and facilities should operate in a commercial environment bounded by market mechanisms or the laws of supply and demand, profit and loss, scale economies, managerial autonomy, freedom of entry and exit, customer likes and dislikes, and the threat of bankruptcy. To create such commercial boundaries for ports, Governments must adopt a legal regime composed of deregulation, decentralization, antimonopoly laws and specific legislation which defines how private interests might participate.

III. Market-based port labor reform: Reform of labor regimes is mandated by technological progress, the introduction of open market economic policies, the advent of a global economy and private participation in public-sector ports. The primary objective of such reform is to increase the speed with which port labor regimes, collective agreements and work practices translate market signals into responses from dockworkers.

Results: The results of the analyzed structural changes, private participation and labor reform will be 1) operational because it will facilitate specialization and concentration; 2) economic because more efficient transport results in more trade and employment; 3) political because it will reduce the possibilities of abuse of political powers; and 4) social because it will lead to more direct cooperation between labor and maritime employers.

At the end of the course, participants are presented with a case study involving two coastal states and a landlocked nation, and encouraged to elaborate an action plan for their ports which would create a basis for private participation and market-based port labor reform.
COURSE PRESENTATION

Objectives: Provide information to participants so that they might identify and understand major trends and strategic signals, advocate a commercial outlook and formulate an action plan for their ports which would facilitate the introduction of modern technologies, create a basis for the participation of private interests and permit the market-based reform of port labor regimes. As part of the action plan, a regulatory framework will be formulated to avoid transferring public-sector monopolies to private interests; socializing losses and privatizing profits; eliminating the labor movement; and delivering the sovereignty of the nation to the private sector.

Structure: Presentations are made largely on a question-and-answer basis to encourage participants with diverse and often conflicting interests to begin working together to formulate an action plan for their port.

Profile of participants: High-level decision makers from ministries of transport, national port authorities, exporters, importers, carriers and unions.

Schedule: The course is divided into three modules of four hours each. It is recommended that they be held in the evening after normal working hours to ensure the attendance of a greater number of decision makers.
I. FIRST MODULE: STRUCTURAL CHANGES

The on-going evolution of markets, services, technologies and regulatory forces is structurally transforming ports. These forces are contemporary expressions of century-old trends and new ways of responding to them must be found. In a global economy enterprises search worldwide for least-cost inputs and this has led to input-to-final product competition and integrated ports into manufacturing and distribution systems. The physical infrastructures of ports must be constructed to facilitate not only the ready access of ocean and land transport operators but also the cost-effective receipt, dispatch and handling of cargoes and information. It is essential that port regulations and labor regimes avoid the sociopolitical trend in public-sector ports which permits: (i) all tasks to ultimately become labor intensive, (ii) resources to be assigned in accordance with sociopolitical requirements, (iii) experience and knowledge of the industry to be of secondary importance when selecting key management staff, and (iv) competition and the profit motive to be replaced by budgets and enterprise accounting systems. The regulatory framework for ports should promote the cost-effective utilization of infrastructures and equipment, assign responsibility to individuals for the value consequences of their decisions, and authorize a port to plan and invest in its future. Thus, the question is: What are the market, service, technological and legal changes needed to modernize public-sector ports?

A. INTRODUCTION

The course begins by requesting participants to project themselves 10 years into the future and write the titles of articles they read in this morning's technical press regarding each of their respective areas. Participants are encouraged not to merely present greater volumes of cargoes, bigger ships and deeper harbors, for instance, but to create new services, technologies and legal regimes to respond to new market requirements, and to discuss their projections. The course is designed to help them deal with such issues and provide an operational basis to answer the following questions:

(i) What is the purpose of a port?
(ii) What is the difference between international trade and global trade?
(iii) What are the specific consequences of the global trade environment for ports?
(iv) What are market mechanisms and can port services be isolated from them?
(v) Will user requirements be met if dockworkers are more productive and reduce vessel times in port?
(vi) What are the lessons of the industrial revolution and what do they mean for port regulations?
(vii) Must ports accept ever larger scale-economy vessels?
(viii) What are the roles of the public and private sectors in ports?
(ix) What are the four ghosts of commercialization, corporatization and privatization, and how can they be avoided?
(x) What is the goal of market based port labor reform?
(xi) Is there an external unbiased standard which might be utilized to harmonize dockworker and maritime employer demands?
B. THE GLOBAL ECONOMY

1. Markets in a global economy

The "globalization of trade" refers to the commercial interdependence among factors of production in different countries which results from collective efforts to produce raw materials and components, as well as to provide assembly and distribution services for goods that will be sold throughout the world. Trade has always been international, in the sense of one country’s goods being sold in others, but the globalization of trade alters this historical framework by establishing a basis for enterprises and Governments to take advantage of complementarities between factors of production in different countries. Many manufactured goods are no longer produced in a single country and shipped to another. Instead, manufacturers obtain least-cost inputs from all over the world, and produce and assemble goods in multiple locations which offer the greatest commercial advantages. Decisions about sources of raw materials, labor, plant locations, transport systems, delivery times and distribution channels are being made on a worldwide basis. Put another way, the difference between international trade and global trade is the degree of freedom in the selection of inputs, finished goods, services, funds and labor. Thus, the global economy has transformed competition between comparable finished goods of international trade into input-to-final-product competition where each input and final product has its own demanding market requirements.

The capacity to compare, purchase and employ raw materials, labor services and finished goods worldwide means that equivalent inputs are in competition and that no one can escape the competition of a global economy. The following illustrations demonstrate how the global economy functions. A three-part folding map of London (UK) entitled "London Unfolds" was purchased in that city, but carries an indication that it was "Assembled in Mexico", and Nissan automobiles of Japan are produced in Mexico and sold throughout Latin America. This means that Mexican labor competes worldwide with other potential assembly and production locations for these and many other products in terms of skills, cost, productivity and willingness to innovate. A kitchen appliance offered for sale by Faucet Queens, Inc., in the US during May 1989 carried the following indication of its possible origins: "This and all HELPING HAND products are made to our rigid specifications in the USA, Taiwan, Hong Kong, Korea, Spain or wherever in the World lies the best consumer value. The exact country of origin is marked on the article, if possible." Finally, the export of apples from Argentina, Chile, New Zealand and South Africa to buyers in Chicago (US) create competition between their individual production and distribution networks, and if the costs of seeds, fertilizer, water, harvest, road haulage, port labor or infrastructure are excessive, or productivity is low for any service activity it could result in loss of that market.

2. Ports in the global economy

Assuming that the recent decisions of the Governments of Argentina and New Zealand to create a basis for private participation in their ports through concession agreements have lowered the cost to handle their apples and this has had a negative impact on the competitiveness of exports from Chile and South Africa in Chicago. Fruit brokers in Chicago will probably request growers in Argentina and New Zealand to provide them with greater volumes once they realize that apples can be obtained at a lesser delivered cost from those countries. The fruit brokers will continue to buy apples from Chile and South Africa, but only to the extent that the volumes from Argentina and New Zealand are insufficient to satisfy market demand. A decrease in the competitiveness of apples in Chile and South Africa could lead to a decline in the demand for workers: on farms, at fruit packing installations, for land and ocean transport services, and for cargo-handling services at ports. The market signals transmitted from fruit brokers to
apple growers in Chile and South Africa provide an aggregate, indefinite and unanalyzed indication that their costs are too high in comparison with those of the other two countries. The market-price signal does not indicate that the reduction in costs of apples in Argentina and New Zealand are the result of specific changes instituted by the private sector in their ports. To determine the reasons for such costs savings, it is necessary to go behind the market price signal and evaluate each input in the entire growing and distribution network of both Argentina and New Zealand, and compare it with the corresponding factors in Chile and South Africa. Thus, market mechanisms provide signals of the need for changes which reduce costs, but they do not identify the areas in which costs should be reduced nor the options to achieve that goal.

C. SERVICES

A useful place to start the modernization of public-sector port services would be to compare their present goals and objectives with global trade requirements. As examples of present goals and objectives the following table includes some true experiences, which occurred in 1960 - but could still happen today in many ports. The second column of the table describes port services in 2010, assuming that the port has adapted to the requirements to compete in a global market.

<table>
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<th>1960 - and still today</th>
<th>2010</th>
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<td>(i) Autonomy vs. Integration</td>
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Ports carry out their activities in a serial, autonomous fashion. Dockworkers load and discharge rapidly, but are unconcerned if cargoes stay in port warehouses for 30+ days.

Individual port services are no longer optimized, but integrated to create a system and the resulting system is optimized to lower costs and improve productivity. Without "systems optimization", the whole can be very much less than the sum of its parts. In fact, the inefficiency or lower productivity of one activity may be quite acceptable if it results in proportionally greater gains for the entire system. The change from "modal optimization" to "systems optimization" provides a total, rather than fragmentary, view of port activities in the distribution chain. For example, an IBM printer was redesigned for assembly and the time for that operation was reduced from 30 minutes to three. With "system optimization" the challenge is no longer to design and construct vessels, ports, railroads or trucks, but rather to design and construct distribution systems which include those as well as many other elements.
Dockworkers are isolated from market signals. They pilfer a shipment of beer bound for North Africa for their own consumption. Ports are protected from competition by laws that prohibit the entrance of goods into a country through other (foreign) ports.

Dockworkers are not isolated from, but subject to market mechanisms and their prosperity has become tied to that of exporters, importers and their employers. This relation enhances the competitiveness of the goods handled in demanding international markets. Port labor representatives no longer seek to justify a cargo-handling monopoly by indicating that it is necessary that they have a large enough volume of cargo so as to reach scale economies with capital-intensive equipment. Dockworkers are permanent employees of specific terminal operators and work jointly with them to resolve productivity and cost problems. Terminal operators seek to motivate dockworkers by offering them training programs, and market-based wages and benefits.

(iii) Providing Employment vs. Serving the Entire Economy

Ports utilize out-of-date institutions and equipment to avoid the social costs of worker redundancies. Container cranes designed to handle 30 units/hour are utilized by port labor to handle only 8 to 12.

Existing constitutional provisions, national laws, policies and labor agreements must permit dockworkers to respond to a new five-part competitive universe encompassing inter-port, intra-port, inter-union, intra-union and non-union competition. Many of the supposed sociopolitical costs of new operating schemes and technologies are more apparent than real. Governments should retain their sensitivity to the concerns of labor and safeguard its interests by including provisions in concession agreements with private terminal operators which require the latter to offer employment to existing workers at nationally competitive wage rates, early retirement benefits and compensation to redundant workers. At the same time, dockworkers should be provided with counseling to ensure that the funds received are utilized for training, retirement annuities or in other employment generating activities.

(iv) Politics vs. Economics

Port administrations, as employers, must comply with extensive sociopolitical requirements. Economic development funds from an industrialized nation are utilized to construct an unnecessary refrigerated warehouse or are inflated to pave a container yard.

Governments respond to dominant groups and give priority to sociopolitical goals when making port investments, while the private sector utilizes a profit-loss-bankruptcy spectrum which responds to market mechanisms. This has led Governments to consider private participation as a means to establish commercial discipline, but private investors require that Governments adopt a regulatory framework and a market-based labor regime which give priority to commercial goals. There should be a separation of Government and private sector functions in ports to avoid the public sector joining with a terminal operator to achieve laudable goals which are later distorted.
1960 - and still today

(v) Shortsightedness vs. cooperation for the long-term benefit of all

Ports respond to vessel requirements which can create a false demand for berthing space and marginalize commercial goals. The captain orders the chief engineer to shut down a generator so that the vessel might stay overnight in the port of Alicante (Spain), and refuses to allow the port to unload the cargo using its own facilities. The port can do nothing about this situation.

The majority of problems facing developing country ports are a consequence of the conflicting framework of economic goals, labor agreements and legislation under which they are required to observe. No longer can the needs of users be isolated from the commercial goals of ports. Activities of users which create a false demand for port infrastructures and equipment increase costs to users and to the national economy. Governments must ensure that vessel operators reflect the competition faced by the goods they carry. The commercial objectives of users and ports have become complementary in a global economy, and cannot be achieved without a collective effort.

(vi) Socializing vs. Internalizing costs

It is accepted that ports and harbors are polluted, although sanctions are applied to offenders who are caught. Oil in engine room bilges is diluted by turning fire hoses on and later pumped overboard at night during the rising or falling tide to move it away from the offending ship.

Government port policies and legislation are linked to broader public-sector goals which ensure that the marine environment is protected and that conflicts are harmoniously resolved by the parties themselves. Port administrations will seek private participation to protect the marine environment through the installation of reception facilities for the disposal of oily wastes, garbage and other harmful substances.

D. TECHNOLOGIES

1. Vessel Productivity

Due to inexact navigation systems in the 15th century, vessels limited themselves to daylight sailing along coast lines in the Mediterranean, Western Europe, the Baltic and to the Red Sea via the Suez land bridge. Ports were no more than 50 nautical miles apart and were either open roadsteads or constructed in sheltered waters by local communities or feudal lords for trade in a limited range of goods. Loading and discharge operations were accomplished by employing casual workers to carry individual sacks, bales and barrels between docks and holds of vessels but, even at this early date, certain ports began to utilize manually-operated wooden cranes to facilitate such operations. The advent of the chronometer in 1594 and its utilization with sextants and charts permitted vessels to navigate at night and they began skipping ports with lesser volumes of cargoes and this trend has been accelerated today by long-distance land transport services. For example, 17 ports handled international trade on the US east coast in 1970, but by 1985 that number dropped to seven and it is projected that by 1999 only two or three ports will be so utilized. Probably the most important lesson to be learned from the cargo concentration trend is that ports can lose their importance, that ports specialize to survive and that ports cease to be commercially competitive.
From the earliest movement of commerce by sea until the advent of steam navigation, all goods - bulk liquid and dry, semiprocessed, manufactured and passengers - were transported in the same vessels. It is generally accepted that the first specialized ocean-going vessel was constructed for the carriage of oil in bulk. That vessel, the Gluckhauf (3,070 deadweight tons), was launched on 16 June 1886, and the first passenger ship some three years later. A month after delivery of the Gluckhauf, she arrived in Philadelphia and loaded 2,880 tons of petroleum. The stevedores at that port mounted a violent protest against the vessel, as there were no barrels or cases of oil for them to handle, and they tried to prevent her receiving any coal for the return voyage. The carriage of oil in bulk rapidly undercut the rates for its transport in barrels and cans, and by 1889 over 40 tankers had been constructed. The ocean carriage of petroleum is illustrative of the spin-off or separation of homogeneous cargoes from liner transport. General cargoes have resisted this trend due to their nonhomogeneous nature and the need to handle and stow each individual unit. With the growing use of containers in ocean-liner transport, however, most carriers are no longer involved in the handling and stowage of general cargoes. To an ever-increasing extent these functions are carried out at interior cargo terminals and factories where containers are filled and emptied. Without the service aspects of cargo handling and stowage ocean-liner services have become undifferentiated and substitutable. Containers have not only made ocean-liner services interchangeable but also transformed liner shipping into a neo-bulk industry.

For over 100 years, any attempt by liner vessel operators to reflect the characteristics of trade demand and reach new scale economy levels was restricted by the slow loading and discharge rates of general cargo vessels. For example, a general cargo vessel of approximately 10,000 deadweight tons (dwt) would require five days and nights and 125 dockworkers per shift to load, and a similar period and number of workers to discharge approximately 8,000 tons of cargoes. As slow loading and discharge rates limited the maximum size of general-cargo vessels, if more cargoes were to be moved on a particular trade route additional vessels had to be placed in service. Containerization reversed this "more-with-more" requirement by permitting increases in productivity with fewer vessels. The transport of general cargoes in containers commenced on 26 April 1956 with the departure of the Ideal X, a modified T-2 tanker with 58 demountable truck bodies aboard, on a voyage from New York to Houston, Texas. Within three months, port handling costs for general cargoes in such units were reduced from US$5.83 to only US$0.15 a ton and handling times were reduced to one-fifth, but many shipowners considered that such units would never be utilized in international trade. Such cost savings and greater speed in handling cargoes removed historical limits on vessel dimensions and encouraged new economies of scale: from general cargo vessels of 10,000 dwt to the Regina Maersk of 85,000 dwt with a capacity of 6,000 TEUs (“twenty-foot equivalent units” - a measure of capacity equal to that of a marine container of 8 feet x 8 feet x 20 feet).

2. Port Productivity

Improvements in port productivity have usually come from investments in new cargo-handling equipment, such as the proposed use of robotic systems and parallel berths which permit continuous cargo handling operations on both sides of vessels, but the next increase could come from an elimination of the passive character of cellular vessels during loading and discharge operations, and should be given careful consideration when projecting the need for new port installations. The preparation of a general cargo vessel for loading and discharge operations utilizes most of the crew and begins at sea with the rigging of booms and the partial opening of hatches, but cellular vessels rely entirely on port labor to prepare the vessel for loading and discharge operations as well as to carry them out. To reduce such passivity, consideration is being given to vessel modifications which assist port productivity. A "keystone" container
slot might be created for each row, with movement of containers inside the vessel for storage. These spaces would not only receive from and deliver containers to the shoreside crane, thereby reducing the enormous amount of crane travel time, but also eliminate the need for greater crane outreach to handle the ever-increasing number of rows of containers on vessels which have beams wider than the Panama Canal maximum of 106 feet (32.31m). The use of continuous cargo-handling systems could lead to the construction of docks as open structures or "strip" docks which have spaces only for crane rails and loading ramps. The potential for a "keystone space" is currently being studied by the cargo-handling equipment manufacturer MacGregor Navire.

The productivity of capital services has been (and still is) growing faster than the productivity of labor. Given the necessary time to respond to technological progress, most ports are over-manned, that is they employ fewer capital services and more labor than would be necessary to minimize costs. In a global economy the ports that are the fastest at employing the most modern (i.e. capital intensive) vessel loading, discharge, cargo-handling and storing systems will always be the ones with the lowest port costs, shorter berth-times, and less dependence on labor.

Technological changes that shorten geographical distances between markets, reduce freight costs and increase transport efficiency have implications for both trade and transport. Such changes have been brought about by major interocean canals, landbridges, and tunnels and bridges. For example, the Panama Canal has locks of 1,000 feet \( \times \) 110 feet, which preclude the transit of an increasing number of large vessels. PANAMAX vessels –vessels of 950 feet \( \times \) 106 feet, the maximum dimensions permitted by the Panama Canal– made up 25% of all transits in 1994. The Gaillard Cut is being increased in size to allow the simultaneous transit of two PANAMAX vessels, but historically it has not had a stable angle of repose, and has suffered a number of serious landslides which have impeded traffic. There were 34.2 daily transits in 1994 and 40 is the theoretical maximum. The Canal utilizes 52 million gallons of fresh water for each ship transit, an amount sufficient for one day in a city of 1.3 million persons. Traffic in 1994 thus consumed enough water for 34.2 cities of that size. The utilization of Panama's character as an entrepot for the movement of goods between oceans, as well as their storage and transformation, has led to the establishment of a free-trade zone at Colon, and a private container terminal at the port of Manzanillo. Competition for public-sector ports from the private Port of Manzanillo has led the Government to grant concessions for the ports Balboa, Cristobal and Coco Solo, and the transisthmus railway.

Computers, port information systems and electronic data interchange (EDI) of the future will be fully integrated into shoreside crane, warehouse and transport operations. This integration will involve computers and electronic aids to assist in the identification, transmission and storage of information related to containers and cargoes. Since containers are used in the commercial flows of almost all countries, the electronic identification system utilized must be readable in virtually every port and interior cargo terminal in the world. The interchange of information between computers on the basis of standard electronic documents, or EDI, requires internationally recognized standard messages and the United Nations Electronic Data Interchange for Administration, Commerce and Transport (UN/EDIFACT) Board has been established as a global forum in which they might be formulated. Direct and third-party EDI systems have already created a number of novel situations. As early as 1988, for instance, the International Longshoremen's & Warehousemen's Union (ILWU) was involved in an arbitration dispute concerning the preparation of dock receipts on computers by marine terminal operators in Japan and their electronic transmission to ports on the west coast of the USA for truckers to sign when picking up containers. Just as the container totally transformed ocean-liner transport, the computer and modern communications technologies will transform production, distribution and consumption patterns.
3. Intermodalism

The intermodal integration of distribution activities is 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.

E. INSTITUTIONAL FRAMEWORK

1. International competition

For many years Governments assumed responsibility for the economic development of their respective nations, and there was a mistrust of both the public and private sectors. Perhaps the biggest problem in developing nations is the ever-changing authority of the state which leads to a lack of confidence in it among its citizens. The standard arguments utilized to support Government involvement in the port industry are that it had to participate for reasons of economic security, employment generation and national defense, but its sure-to-change-again policies act as a disincentive for private investors. National sociopolitical and strategic requirements were more important than commercial goals. With the advent of a global economy, including input-to-final product competition, and the passing of the cold war, those reasons seem of minor importance at best, but Governments continue to respond to pressures from various dominant groups such as dockworkers to protect them from market failures. The fact is that market failures arise not because of an inherent weakness in the market mechanisms, but for the deeper reason that Governments do not adopt appropriate regulatory regimes which preclude their abuse. Thus, market mechanisms are neutral and fail when regulatory regimes permit their exploitation to limit competition or to obtain monopoly rents.

An open market and the input-to-final product competition of a global economy require the commercial transformation of trade and transport institutions, and regulatory regimes so as to permit the worldwide selection of raw materials, production sites and distribution systems. However, some countries’ constitutions were elaborated as they rediscovered participative democracy, but before they fully understood the role of market mechanisms in the achievement of commercial goals. Many Government agencies remain what they were before the adoption of open-market policies: Overstaffed with political nominees who must execute uncommercial and unnecessarily complicated regulatory requirements. In open-market economies Governments should retain certain functions, such as regulators, owners and promotional investors, while a wide range of other activities which include operation of port terminals, investments in cargo-handling equipment and employment of dockworkers should be assumed by private
interests. Thus, the traditional utilization of ports to fulfill sociopolitical objectives such as the award of positions to political supporters and the reduction of unemployment in surrounding cities have created a mistrust and misuse of both commercial and political institutions.

Ports have come to play a central, promotional role in international trade and directly influence the competitiveness of the goods in global markets. When changes occur in the competitiveness, direction, level or composition of trade, the services provided by carriers, customs authorities, banks, insurance companies and dockworkers must change as well. For many years, the realities of international trade either have not been taken into account or have been characterized as harmful and covered over with dockworker registers, cargo-handling monopolies, subsidies, and direct Government investments and participation in collective negotiations as well as dispute resolution. This led to an overstaffing of ports, low productivity and a waste of resources. In the input-to-final product competition of a global economy ports are but one element in a tightly integrated production and distribution systems. In 1994, for instance, US trade with Asia totaled 6.7 million TEUs; with Europe, 2.4 million TEUs; and with Latin America, 1.8 million TEUs. The total container traffic between major Asian economies was 4.46 million TEUs, an increase of nearly 14% over the 3.91 million TEUs moved in 1993. From April to June 1995, the US exported a greater volume of manufactured goods to Central and South America than to Europe – that is, 325,000 TEUs of exports were destined for Latin America, and only 317,000 TEUs for Europe. Thus, ports became an international commercial undertaking with the introduction of open-market policies and the advent of a global economy.

2. International agreements

International agreements, such as GATT/ WTO, which encompass a reduction in customs duties for commercial exchanges between member States increase cargo volumes for ocean carriers and ports. Such agreements also permit members to restrict and even preclude the import of certain items if domestic producers might be injured. If such provisions are not utilized, the monopolies that domestic manufacturers enjoy would be eliminated because the reduction in Customs duties permits goods from other countries to compete in local markets. Such competition compels domestic producers to meet the demands of international markets locally, and prepares them to compete outside national borders. The success of free trade agreements is commonly measured by the degree to which trade between its members has increased. With national market restrictions removed, ocean and land carriers from each country should be able to participate on an equal basis in the trade flows of all members. Probably the most important consideration for ports would be the impact of a wider market on vessel routs, economies of scale, hinterland connections, and greater competition from other ports. Cargo owners and carriers will no longer be held hostage by a port, but will be able to utilize ports which have greater inland transport connections, charge less and are more productive, and could find themselves becoming part of specific distribution systems. This could lead to increasing scrutiny of subsidies and investments made by their Governments.

Regional free trade agreements, such as Mercosur, APEC, or NAFTA, generally have an equivalent impact, although care needs to be taken that the increase of intra-regional trade is not just a diversion of inter-regional trade. In the case of Mercosur, for example, it is argued that increased trade between Argentina, Uruguay and Brasil, which is mainly transported by truck, has partly replaced other international trade, which would have gone through the ports.
Forty-two major trading nations met at the World Trade Organization (WTO) to elaborate an agreement which would liberalize or deregulate ocean shipping. By the end of May 1996, however, talks were paralyzed after the US Government withdrew because of an alleged lack of real interest being demonstrated by other nations to open their transport markets to world participation, while many nations claimed that the US was protecting its own interests. Two months later, EU trade officials and their counterparts from 10 Asian nations met to discuss global antimonopoly and investment rules. The liberalization or deregulation of ocean liner shipping does not mean the elimination of regulations, but the elimination of protectionist measures which impede the interplay of market mechanisms in ocean transport services. For example, the elimination of liner-shipping exemptions from antimonopoly laws is controversial, but should not be; an undistorted demand for services would eliminate the price and supply control mechanisms of liner conferences and contribute to correcting the market-distorting tendency which leads to a chronic oversupply of transport capacity in certain routes and a shortage in others. Spending more public money on the industry through subsidies or Government ownership and operation of shipping lines is not controversial, but should be; Government expenditures should have a broader purpose in areas such as health, education, public safety and protection of the environment. Thus, deregulation could ensure commercial responses to market signals, but the functioning of market mechanisms can be distorted by commercial and political interests, and protected only by a regulatory framework which includes strong antimonopoly laws.

The United Nations Commission on International Trade Law (UNCITRAL) convened an international conference in Vienna (Austria) in May 1989 to consider a draft Convention on Liability of Operators of Transport Terminals (OTT). The scope of this draft Convention and its liability regime encompass the activities of ports and marine terminal operators. Specifically, article 5 (1) provides that the OTT is liable for loss, damage or delay to the goods in his care unless he proves that he, his servants or agents took all measures that could reasonably be required to avoid the occurrence which caused the loss, damage or delay and its consequences. The Convention was adopted at an international Conference held in Vienna, Austria, April 1991, and will enter into force after five nations have ratified its provisions. As of January 1997, only one nation, Georgia, has ratified the Convention.

The depressed returns on investments in liner shipping have led to an effort to reduce the industry cost structure through the establishment of alliances. These new arrangements go beyond consortia and provide liner shipping companies an opportunity to aggregate cargo volumes, increase service frequencies, improve asset utilization through the sharing of vessels, terminals, equipment and containers, and employ their collective financial strength for long-term procurement and asset replacement. Alliance members keep separate their administrative and marketing functions, and industry commentators foresee them controlling 85-90% of the world's container transport capacity. In September 1996, P&O Containers and Nedlloyd Lines, members of competing alliances, went a step further and merged their separate operations into P&O Nedlloyd Container Line (PNL). Many ports are constructing installations and undertaking dredging projects in a competitive race to attract alliance carriers. For a port to be selected by an alliance as a hub center, it should have a strategic location vis-a-vis multiple trade routes and desired markets, charge market determined dues and tariffs, be surrounded by a dynamic local economy which provides a balanced cargo baseload, offer modern infrastructures in terms of berths, cranes, railway and road connections, storage space, water depths, and have harmonious labor relations and productive workers. Terminal sharing among alliance members may be difficult due to the cost of breaking long-term terminal leases, and relocating carriers and their cranes within and between ports.
3. Limits to the free market and international agreements

The free market and international agreements can not encompass all port situations, because of location, environmental, political and labor factors which come into play.

(i) **Location.** In contrast to manufacturing and maritime transport, ports find themselves tied to a particular location and if that site is not appropriate vis-a-vis major producers and markets in a global economy, investments in new facilities and rate reductions will bring about only minimal changes. The prospect of manufacturers changing factory locations to enhance the competitiveness of their products can be seen from the decision of a major footwear company of the US to shift its production back to South Korea from Thailand, after having established itself in the latter country just two years earlier in order to lower production costs. The marketing program of Rotterdam (the Netherlands) highlights that some 80% of Europe can be reached by road within 24 hours from its facilities, and Antwerp (Belgium) uses a centrality index to demonstrate its locational advantages. The great-circle distance between the ports of Tokyo (Japan) to Seattle (Washington, US) is 4,718 miles, while the distances between the ports of Tokyo-San Francisco (California, US) and Tokyo-Los Angeles (California, US) are 5,135 miles and 5,433 miles respectively, a difference that gives the nearby ports of Seattle and Tacoma a two-day advantage in voyage times from the Far East. These ports have expressed concern that their advantage might be of lesser importance with respect to Southeast Asia, because cargoes from the latter region could flow just as rapidly to the US east coast via the Suez Canal for subsequent distribution throughout that country on the US micro and mini landbridges. Thus, the growth, stagnation or decline of ports is often due to factors over which they have virtually no control.

(ii) **External effects.** Public-purpose objectives for ports go beyond market goals and seek to achieve the greatest well-being possible. Market forces encourage users to select cost-effective ports, and maritime employers to invest in modern equipment and training programs for dockworkers, but they do not automatically foster public-purpose programs which protect the environment, create a safe workplace nor lead to the adoption of laws which prohibit the use of child labor, establish minimum wages and preclude discriminatory hiring practices. Indeed, history clearly demonstrates that enterprises will engage in such activities unless specific prohibitions are placed in regulatory regimes. Governments should adopt international conventions and implementing regulations which provide an incentive—such as joint penalty avoidance— for collaboration between port labor, maritime employers and users to detect contraband and provide greater protection for the marine environment. For example, the International Convention for the Prevention of Pollution from Ships (MARPOL 1973/1978) has various annexes which range from the control of oily substances to sewage and garbage.

(iii) **Political.** In a global economy ports are as susceptible to the economic climate of international trade as are exporters and importers, but by virtue of their location at the confluence of trade and financial flows, and sources of employment, they may well be more vulnerable to political pressures. Governments are sociopolitical institutions and find it difficult, if not impossible, to resist the pressures of port labor national producers for protective measures and subsidies. Such pressures are usually justified in terms of protecting a nation’s economic security, employment generation capacity and national defense, while commercial goals are marginalized and treated in a most relaxed manner. Governments have also come to utilize trade rules in a creative manner to achieve political objectives. For example, phytosanitary regulations for fruits and vegetables are widely recognized as having both health and political agendas, and Governments manipulate them for domestic producers to achieve a wide range of objectives such as market protection and the award of subsidies to equalize competition which are unrelated to the objective of protecting a country’s crops from destructive pests. The structure of the port industry and the demand for cargo handling services is often distorted as a result of such activities by Governments. The elimination
of such measures should ensure an undistorted demand for services and could correct the tendency towards an overinvestment in port capacity.

(iv) Labor. The history of the labor movement in many countries has paralleled the history of dominant political parties. Collective negotiations are utilized by Governments, political parties and labor as a means to redistribute the wealth of the nation—the role of taxes—and to fulfill political aspirations, not as a means to obtain a market-determined wage, to protect workers from unsafe conditions, and to ensure timely responses to the needs of exporters, importers and carriers. This has led to overstaffing, low productivity, high costs, corrupt practices, and wages and working conditions which do not reflect market conditions. Dockworkers seek to establish and preserve monopoly privileges in a global economy by means of alliances with elected and appointed Government officials, and political parties. Such alliances expose dockworkers to manipulation by political parties, politicians and Governments, and vice versa. Politicians and labor leaders are elected as change agents, but are often transformed into advocates of the status quo in order to ensure their own reelection. Both tend to shy away from vote-losing decisions and try to gain a political advantage by criticizing unpopular but sensible innovations. Finally, union leaders are often reluctant to enforce discipline on their members to increase productivity and reduce costs, or to expose those groups of workers who are utilizing ports for personal enrichment.

F. CONCLUSION

Ports have evolved from national to international industries. Port services cannot be considered independent from other distribution chain activities, but part of a system and the resulting system must be optimized. International trade has changed from commercial exchanges between nations to such exchanges in a much more integrated global context. Technologies are the birth certificates of port services because they determine those that can be offered, the markets in which they can participate and the institutional or regulatory framework needed. The regulatory framework can no longer give predominance to sociopolitical goals over those of a commercial nature. Market mechanisms and legal regimes must be joined to constitute a regulatory basis which controls the national economy instead of public-sector supervision.

The role of national maritime and port administrations has changed, too. On the operational side their influence is being reduced due to more private sector involvement. On the regulatory side more and more international agreements have to be taken into account. Yet, their relevance for the overall national economy may as well have increased because within a global economy efficient ports are ever more crucial for a country's economic growth. That growth needs trade - and trade needs ports.
II. SECOND MODULE: PRIVATE PARTICIPATION

Public-sector ports are expected to achieve a wide-range of conflicting objectives, such as raising productivity while utilizing inappropriate technologies, and controlling costs while employing an oversize workforce. Without adopting measures which eliminate conflicting objectives, a decisive opportunity to enhance the competitiveness of the goods handled will be lost. Such measures include a role for the private sector in public ports. Private participation is seen as a means by which Governments might remove themselves from day-to-day commercial decision making, and become more involved in the formulation and implementation of appropriate laws, regulations and policies. Indeed, the port regulations of many developing nations are an incongruent group of rules that arise from the controls placed on each of the organizations and enterprises which carry out their activities in ports. The decisive question is not who has ownership of port equipment and properties, but if they are utilized on a commercial basis. In a global economy, subsidies and market restrictions are no longer effective to bridge the gap between commercial and sociopolitical goals. To promote private-sector involvement, Governments must adopt a market-oriented institutional framework which creates statutory authority for private participation.

A. INTRODUCTION

1. Initiative

The initiative to create a basis for private participation in public-sector ports usually arises from one of the following three sources:

- Public outcry
- Political platform
- Competition

1) A public outcry against high port costs, inefficiencies, robberies, corruption and the unavailability of goods is short-term, easily weakened and becomes unreliable once the symptoms, not causes, for it have been treated. For example, Chile began with such an outcry and has only deregulated the port labor environment. It has not consolidated its port model with decentralization, antimonopoly laws which are equally applicable to port users, maritime employers and labor unions, and specific legislation which defines the roles private interests might play.

2) Likewise, a political platform often lacks long-term support and is easily circumvented with a change in Government.

3) Competition is an outstanding source for an initiative to create a basis for private participation in a nation’s ports if it is constant, and there is no collusion to limit it.

A convergence of the three sources of privatization occurred at the port of Montevideo (Uruguay) due to (i) competition from the recent concessioning of six terminals at the nearby port of Buenos Aires (Argentina), (ii) the political platform of the Government, and (iii) a recognition by labor that Government subsidies would no longer be forthcoming. Thus, the strongest case for private participation can be made if there is a convergence of all three factors.
2. Obstacles

The major obstacles to private participation arise from the following four "ghosts" or claims by dominant groups that privatization will:

(i) transfer a public-sector monopoly to private interests;
(ii) socialize losses and privatize profits;
(iii) eliminate the port labor movement;
(iv) transfer the sovereignty of the nation to the private sector or, worse yet, to the private sector of another nation.

The groups utilizing the four ghosts to impede a privatization initiative will utilize (i) the national constitution and other laws which prohibit private ownership and investment in tidal areas, (ii) the loss of job security and the social costs born by dockworkers which will create unrest, and (iii) the loss of central Government control of ports for economic, social and strategic reasons.

B. DOMINANT GROUPS AND MARKET MECHANISMS
IN A GLOBAL ECONOMY

The competition inherent in a global economy means that importers, exporters, carriers, Governments, labor and ports are subject to market mechanisms. Ports might be in possession of monopoly positions vis-a-vis their hinterlands, but they must respond to the competition faced by the goods they handle in order to commercially survive. Governments can adopt measures which eliminate competition between ports, but they cannot eliminate competition between goods. As a consequence, ports are structurally competitive. To understand market mechanisms, it is necessary to identify them and evaluate how they function so as to determine not only their economic consequences but also what measures should be included in a nation's regulatory framework.

1. Market mechanisms

"Market mechanisms" is a word of art or an academic term that is often meaningless at the operational level. Such mechanisms are the key to establishing competition within and between ports, and encompass the laws of supply and demand, profit and loss, scale economies, managerial autonomy, freedom of entry and exit, customer likes and dislikes, and the threat of bankruptcy.

Users needs together with the companies' profits and losses (including the threat of bankruptcy) determine the supply and demand of port services. With free market mechanisms the resulting quantity and price of port services is cost efficient, because efficient production is assured by managerial autonomy, including decisions concerning the size of a port so as to make use of economies of scale. The determination of the optimal port size is then linked to the freedom of entry and exit.

Without an appropriate regulatory framework, however, there exists the danger that they can be utilized by dominant groups to obtain monopoly rents. Looking at each of these factors:

(i) Supply and demand. The demand for port and dockworkers' services is derived from the demand for the goods they handle. The generally accepted corollary to this is that along with the costs of manufacturing, transport and insurance, port costs are added to the delivered price of goods. Port costs
include not only the actual vessel and cargo expenses paid by shippers but also those arising from technologies, regulatory requirements and labor agreements, which contribute directly to the gain or loss of market opportunities for cargo owners. If port costs are excessive, whether through inefficiencies, inappropriate technologies or out-of-date regulations, they will reduce the competitiveness of the goods handled in world markets, limit sales, decrease the demand for port services and diminish the effectiveness of export-led growth policies.

(ii) **Profit and loss.** A private-sector enterprise utilizes profit and loss accounting, operates in a commercial framework and can carry losses forward only to the extent that it does not go bankrupt. In contrast, a public-sector enterprise utilizes fund accounting and must justify variances from budgets, operates in a sociopolitical framework, carries forward any losses as requests for greater budget allocations and cannot go bankrupt. For example, the state-owned Japanese National Railroad (JNR) was losing US$25 million a day and had an accumulated debt of US$285 billion. In April 1987, the JNR was converted into 12 limited liability companies with the Government holding 100% of the stock. The new lines have assumed about 62% of JNR debt, with Japanese taxpayers assuming the remainder. By April 1988, the three lines on Honshu made a profit of US$1.12 billion, after making debt payments of US$2.4 billion. Before corporatization, the JNR was part of a public-sector bureaucracy controlled by Government policies and objectives. Once the 12 companies were subject to private enterprise accounting, competition and the risk of bankruptcy, it became clear to corporate directors and workers that only through their own endeavors would they avoid bankruptcy.

(iii) **Economies of scale.** Scale economies in manufacturing refer to a reduction of average production costs as the size of a plant increases. Using scale economies it is possible to enhance the competitiveness of the goods handled in world markets, thereby adding value both to the goods and to the commercial activities of exporters and consignees. Applied to ports this would mean increasing terminal size, improving productivity, acquiring advanced cargo-handling equipment and providing greater water depths to lower the average costs per unit of cargo. The exploitation of scale economies in ports is limited by obstacles to providing needed installations, and by limitation on the volumes of cargoes presented. For individual ports, this means that the desired scale economies must be measured against factors such as competition from other ports serving the same hinterland, productivity and cost of its labor force, requirements of shippers and consignees, cargo imbalances and seasonality of cargo flows, etc. In the past, ports determined the scale of their operations based on the supply or volume of cargoes flowing to and from a captive hinterland. Today, there are no captive hinterlands and ports must consider the impact of long-distance land transport creating an extended hinterland and competition from ports not only nearby but also much further afield.

(iv) **Managerial autonomy.** Political leaders often see ports as a means to create a constituency, absorb unemployment and assign prominent positions to major supporters. If uncontrolled, these sociopolitical responsibilities can become part of such an enormous network of benefits, cross-subsidies and welfare that the possibility of a port operating on a commercial basis is placed at risk. Such a framework frequently requires ports to act as if they were nonprofit institutions, instead of enterprises which must provide services which are cost-effective and productive. This has permitted, for instance, dockworkers to reject labor-saving technologies, intermodal distribution systems and global economic realities, and to usurp many managerial functions of public-sector port managers. Governments justified these impediments to efficient, low-cost ports by asserting that they support important economic, political and social goals. In today's global economy of deregulated, intermodal and electronically joined distribution functions, port managers must have sufficient autonomy to achieve commercial objectives.

(v) **Freedom of entry and exit.** These freedoms cannot be absolute, as the number of possible port and marine terminal locations is limited, and the contractual obligations of private operators must be observed. If private interests are allowed to participate in the provision of port services and port facilities,
and offer services to the same users, additional competitive elements will be introduced and the market should be better served. Industry expertise is not the primary determinant of whether private interests will be permitted to enter the industry in many countries. Rather, they must satisfy time-consuming, labyrinth-like, influence-ridden requirements for eligibility and be considered politically acceptable to obtain Government approval. Governments must formulate regulations that eliminate such selection procedures, but it is not practical to formulate detailed plans for private-sector involvement because the options for such participation are far too varied and dynamic for universally applicable rules. Instead, governments should formulate an institutional framework which would allow private interests to propose their own plans for participation according to ever-changing market conditions.

(vi) **Users' needs.** Users (exporters, importers and carriers) are no longer willing to accept that port management and labor remain tied to institutions and technologies which respond to earlier economic policies, past financial crises and pressures of particular groups. The needs of users ignore the clock, the calendar and even weather conditions, and they have become sensitive to the cost and productivity of ports an ocean away handling competing goods destined for the same markets. Users are increasingly unwilling to accept services which are inefficient and expensive, and are demanding service and facility innovations, enhanced productivity and cost-effectiveness without increases in charges. Investments in new technologies are necessary conditions to make ports attractive to users, but to be sufficient they require private participation, competition, market-responsive port labor regimes and highly skilled workers. If a port does not meet the cost, productivity and damage-free delivery requirements of users, cargoes will flow to nearby ports serving the same hinterland.

(vii) **Threat of bankruptcy.** Most public-sector ports are Government agencies that operate in a sociopolitical framework which has a bias against risk-taking and innovation, and which permits influence groups to play a dominant role in a wide range of activities. In contrast, corporatized public-sector ports and those operated by private interests are largely governed by market forces and face the risks of losses and bankruptcy. The possibility of earnings, losses, competition and bankruptcy requires private interests to constantly adapt their activities to better serve port users so that they might commercially survive. It provides incentives which lead them to invest, specialize and amalgamate into more viable enterprises. Without the threat of bankruptcy, the market system of penalties and rewards would be nullified.

**2. Dominant groups**

Public-sector ownership, administration and operation of ports has led to a bureaucratic lethargy in areas such as investments, labor negotiations and the fulfillment of commercial goals, as well as to their control by various dominant groups. Port labor unions are one of the better organized groups and they exercise monopoly control over their own activities and influence those of many other groups. There is often a well-organized group of dockworkers that has piflered cargoes with impunity for a number of years. User groups have begun to express their dissatisfaction with the monopoly control of cargo-handling and storage operations by port administrations and docklabor, as well as with the monopoly control of inland transport services by rail and road carriers. Each of the aforementioned groups and many others exert such an enormous amount of control over the national port administration that they determine working hours, which cargoes are dangerous, which investments might be made, where cargoes might be stored and many important aspects that would appear to be the prerogative of management. As an illustration of this point, in October 1990, the Government of Peru issued a decree allowing private companies to provide port services. An estimated 16 stevedore enterprises were established, but some of them saw the new law as an opportunity for immediate enrichment and a chaotic situation resulted.
C. MEASURES GOVERNMENTS SHOULD ADOPT TO SUPPORT PRIVATE PARTICIPATION

The high cost, low productivity and overstaffing of ports was utilized by many developing nations as micro-economic transmission mechanisms to strengthen inward growth policies by increasing the price of imports in national markets. With a change to export-led growth policies, however, such costs are now seen as a major impediment to the achievement of desired growth goals. Governments seek to foment the participation of private interests in the provision of port services and facilities to lower cost, improve productivity and rationalize staffing and, at the same time, achieve growth goals by enhancing the competitiveness of a country's exports in international markets. To promote private sector involvement in port services and facilities, Governments must adopt a legal framework which ensures that dominant port groups cannot distort the commercial environment in which trade relations take place.

1. Legal framework

To promote private sector involvement in port services and port facilities, Governments must adopt a market-oriented institutional framework in order to ensure that dominant port groups cannot distort the commercial environment in which trade relations take place. The following legal measures provide a basis for private participation in public-sector ports.

(i) **Deregulation**: The elimination of bureaucratic obstacles – direct and cross subsidies, market reservation, sociopolitical obligations, labor carrying out management functions, Government bailouts, etc. – to the free play of market mechanisms. The removal of such obstacles will create a regulatory vacuum unless it is balanced with other regulations which reorient the roles of public and private interests so that ports and users might respond to the demands of a global economy. If deregulation is not accompanied with such measures, dominate port groups will be drawn into the vacuum and will seek to retain their controlling positions and obtain monopoly rents. For example, the elimination of Governments as port operators and employers of dock labor will not create a regulatory vacuum if market mechanisms replace them and they are supported by decentralization, antimonopoly laws and specific legislation which defines how the private sector may participate. Economics and law are both social sciences, but the training of economists makes them comfortable with market mechanisms while attorneys are apprehensive unless everything is tightly regulated. This does not lead to an either/or decision, as the global economy mandates that attorneys incorporate market mechanisms into regulatory regimes.

(ii) **Decentralization and financial autonomy**: Each port should be responsible for the value consequences of its own operations, planning and investments. Governments must remove themselves from day-to-day operating decisions and focus on the formulation of longer term policies and plans which support macroeconomic objectives. The goal is to improve service and facility innovation, productivity and cost-effectiveness through an increase in local participation, utilization of local resources for investments and greater accountability of Government officials. It is often suggested that decentralization will lead to a fragmentation of business entities which cannot function in a globally competitive setting, but Governments should provide a framework for decentralization and permit private interests to determine the extent of its application. Decentralization does not eliminate the central Government's responsibilities, but requires that it establish an institutional framework which provides local organizations and private investors with the authority to carry out operational, planning and financial functions, and transforms the public-sector port administration into a regulatory body to monitor such activities.

(iii) **Antimonopoly laws**: Private sector participation in port services and port facilities can contribute to the achievement of national economic growth goals only if supported by vigorous competition. National antimonopoly commissions should have an unambiguous mandate to protect competition, not specific firms...
or an industry from competition, to enforce property rights and to initiate investigations as well as to follow-up on complaints submitted by other parties. Such commissions should be authorized to hear and decide cases of abuses of dominant positions, issue cease and desist orders, and assess damages. Antimonopoly laws also avoid the possibility of transferring a public-sector monopoly to private interests, which has long plagued Governments and given substance to the arguments of all those seeking to preserve existing institutional arrangements and their dominant positions.

(iv) **Specific legislation:** Governments should adopt legislation which promotes private sector involvement in port services and facilities. That framework should create a basis for private involvement in port services and facilities, define with a high degree of precision the options for such participation, the properties and services which are to be made available, provide guidelines to determine their values, safeguard the property rights of investors, and specify any advantages or consideration accorded private interests and labor of the country in which the port is located. The options for such participation range from private stevedoring companies, management contracts, concessions and public-private joint ventures to authorization of private terminals to handle third-party cargoes, corporatization and sale, and the one selected is often not determined nationally but by major competitors. Due to the transitory nature of commercial opportunities and the traditional lethargy with which Government bureaucracies function, the legislation should clearly define standards for approval of private sector proposals. Such standards should establish a strong presumption that increased participation will benefit the nation in order to avoid the endless problems and delays of trying to satisfy vague requirements such as an "economic need". The legislation should also be structured to establish time limits for decisions by Government agencies on proposals and for their implementation by private interests.

2. **Transfer of control**

The process for transferring the control of port operations to private investors includes the following measures which can be carried out within the term or period of authority of one Government.

(i) **Constitute a privatization team:** Each Government should appoint a director and team of highly qualified persons who are committed to the restructuring of public-sector ports. These teams, which should be drawn from the ministries of finance, trade, transportation, public works and labor, as well as from the central bank and port administration, should be given the authority to utilize the services of port specialists, accountants, attorneys, economists, exporters, importers, carriers and labor representatives to prepare studies and supervise bidding, auction and sale procedures, so that all matters will be transparent, equitably handled and commercially resolved. The objectives of privatization teams are to identify, evaluate and recommend economic, legal and social measures that their individual Governments should adopt to create a market-based institutional framework for public-sector ports and for port labor which will provide an attractive investment environment for private interests.

(ii) **Adopt a regulatory framework:** (See Second Module, part C., 1. legal framework).

(iii) **Establish a regulatory agency:** Governments will find that the unavoidable rigors of global trading will require them to continually restructure the regulatory framework for ports so that productivity might be improved and costs reduced in order to enhance the competitiveness of their goods in international markets. The elements of the regulatory framework –deregulation, decentralization, antimonopoly laws and legislation which define how private investors might participate– will constantly be challenged as being too restrictive, weak or out-of-date. To respond to changing economic requirements, Governments must either transform port administrations into regulatory agencies or establish new agencies in order to implement the new regulatory framework for national ports, and make recommendations for adjustments to it.

(iv) **Identify and define the elements of the privatization process:** Assuming private participation
is through concessions, the process should begin with the port having the largest cargo movement and end with the least. The bidding process should involve three separate proposals: first, the background of the bidder, his company, experience and current worth; second, the plans of the bidder for the port and any investments envisioned; third, the amount the bidder is willing to pay as an annual fee and as a part of cargo volumes or profits, or both. The transfer of a nation's ports to private investors should be carried out in series because the stock market and major terminal investors cannot absorb so many commercial opportunities simultaneously. The period of concessions should not exceed 25 to 30 years if the basic infrastructure exists, 50 years if port installations must be constructed, and 10 years if the terminal is fully equipped. The sociopolitical desire of a Government to create a development pole at a small port with reduced cargo volumes will often induce major investors to wait for the nation's largest port or encourage them to look at the ports of another nation that might handle the same commercial flows. This can be determined by considering the competitive setting of the port in question *vis-a-vis* other nearby ports which serve or seek to serve the same hinterland. Also to be considered are planned infrastructure improvements and equipment acquisitions for which funding is available. Requests for the construction of new installations or additions should be automatically approved by the applicable regulatory agencies unless they publish their reasons for rejection within a very short period of time, say 45 days.

D. RESULTS

The following are the economic, political and social implications of private involvement in public-sector ports.

1. Economic

The productivity of the ports will improve, which will either lead to more throughput and/or to lower costs. Imports and exports will thus be facilitated and *overall* national employment will grow. The following three examples illustrate the point:

1) The Government of Chile created competition in cargo-handling and storage operations by deregulating port labor and authorizing the private sector to establish stevedoring companies. These changes had a positive impact on costs and productivity, and eliminated a projected need for US$500 million in infrastructure investments. Cargo handling productivity at the port of Valparaiso increased from 2,060 boxes of fruit per hour in 1978-1979 to 6,500 in 1985-1986, which reduced vessel port-stay times from 129 to 40 hours and per box costs fell from US$0.54 to US$0.26. In 1985, a total of 572,479 metric tons of fruits and vegetables were shipped from Valparaiso/San Antonio and by 1995 the volume rose to 1,256,811 metric tons without any investments in new berths. Prior to these changes, it was found that the cost to load pine trunks aboard a vessel was greater than the total cost of growing the trees, cutting and preparing the trees for export.

2) New Zealand deregulated transport in 1984, but transport cost remained high due to its ports being owned and operated by the Government. In 1989, New Zealand harbor boards were converted into limited liability companies and the work force was rationalized. Ports of that country immediately became more productive and have generated cost savings for users. The port of Tauranga handles 60% more cargo per ship per day and the productivity of log handling gangs has risen by 150%. The country's dairy industry, whose annual freight charges amount to US$107 million, saved US$5 million or US$3,500 for each farmer in 1990. Likewise, privatization of the container terminal at the port of Klang (Malaysia) in March
1986 led to a lowering of costs and an increase in productivity, both of which contributed to a growth in
the number of containers handled from 394,000 TEUs in 1989, which was a 23% increase over 1988, to
497,000 TEUs in 1990. Due to its success with the container terminal, the Government of Malaysia is to
privatize the remainder of Port Klang and the Port of Malacca by mid-1991, as well as all ports in the
country by 1993.

3) The U.K. adopted the Registered Dock Labour Scheme in 1947 to eliminate the casual employment
of dockworkers by guaranteeing them a job for life. The average cost per metric ton for handling cargo
at a Scheme port was between US$12 and US$27, while the same activities cost from US$4.50 to US$6.50
at Rotterdam and Antwerp. The Dock Labour Scheme cost the U.K. economy more than US$800 million
in its 42 years of existence. The U.K. Government began privatizing its ports in 1983 and abolished the
Registered Dock Labour Scheme in July 1989. Since that latter date, the productivity of dockworkers
handling containers has risen by 87% for the fiscal year ending July 1990, and productivity in the handling
of conventional cargo increased by 28.4% per port worker during the same period. The U.K.
Government estimated that the repeal should lead to the creation of approximately 50,000 jobs over a five-
year period. The port of Liverpool estimates that ship and landside productivity have increased 20% and
25%, respectively, and plans to promote itself as a major distribution center for North Atlantic services.

2. Political

Private involvement in ports - properly regulated - will reduce the possibilities of abuse of political powers
and it will reduce corruption. Governments respond to the needs of the people they represent and, without
a carefully formulated institutional framework, it is most difficult to avoid the transmission of the desires
of dominant groups to public-sector ports. For this reason, Government functions in ports should be
limited to that of owners, promotional investors, regulators, facilitators, trade promoters, and decision
makers in the resolution of conflicts.

If ports are sold or concessioned to foreign interests for commercial operations, it does not usually
create large-scale employment opportunities for noncitizens or decrease the inflow of foreign exchange.
Ports are site and customer specific, and purchasers or concessionaires make investments in those sites and
in those customers, and earn a return on investment from them. Dockworkers continue to be recruited
locally, as most countries have immigration laws which permit the employment of foreigners only when
the skills required cannot be obtained from their own citizens. In addition, article 2 of the United Nations
Charter of Economic Rights and Duties of States provides, in part, that each State has the right:

"(a) To regulate and exercise authority over foreign investment within its national jurisdiction in
accordance with its laws and regulations and in conformity with its national objectives and
priorities. No State shall be compelled to grant preferential treatment to foreign investment;"
"(c) To nationalize, expropriate, or transfer ownership of foreign property, in which case appro-
riate compensation should be paid by the State adopting such measures, taking into account its
relevant law and regulations and all circumstances that the State considers pertinent. In any case
where the question of compensation gives rise to a controversy, it shall be settled under the
domestic law of the nationalizing State and by its tribunals..."
3. Social

It is true that private sector involvement initially often creates redundancies. However, the savings that result from more efficient port operations are almost always large enough to allow for the necessary financial compensation to redundant workers.

Many governments believe the social costs involved in private participation in public sector ports are so high that they will create problems for them in the next election. Governments must respond to the concerns of labor and safeguard its interests by including provisions in agreements with private enterprises which provide for early retirement benefits and compensation to redundant workers as well as require the latter to offer employment to existing workers at nationally competitive wage rates. The following two examples illustrate the point:

1) The compensation programs for redundant workers at the ports of Chile cost the Government a total of US$30 million, and generated a savings of US$40 million in 1982. By 1995 the savings from the deregulation of labor in Chilean ports had grown to US$140 million. In 1991, the Government of Colombia allocated US$50 million to compensate 8,000 Colombian dockworkers for the loss of acquired rights. The Government of Mexico spent an estimated US$30 million during 1994 to liquidate collective agreements which granted dockworkers exclusive cargo-handling rights at 10 ports. Port labor unions were disbanded, but are permitted to reorganize as profit-making companies and to compete with private terminal operators. Finally, the restructuring of Venezuelan ports in 1991 led to the discharge of 10,279 dockworkers and all 2,000 national port institute (INP) staff. The Government of Venezuela paid double indemnization to workers, which amounted to a total of US$182 million.

2) New Zealand's expenditure to compensation redundant dockworkers was US$28 million, and by the end of 1990 the direct savings to port users of that country amounted to US$56 million. For every job lost on the New Zealand waterfront, the Government estimated that another 10 were generated in other sectors by eliminating productivity and cost bottlenecks caused by the ports. The UK made payments up to a maximum of US$58,000 per worker, while the payments made by the Government of Chile averaged US$14,300 per worker, and ranged from US$10,000 to US$200,000. Redundant dockworkers receiving a single compensatory payments should be provided with counseling to ensure that the funds received are utilized for training courses, retirement funds or in other employment generating activities. The economic and legal measures adopted by Governments to restructure their public-sector ports must resolve social problems related to port employees and dockworkers, not simply transfer them to another area of the national economy.

4. Operational

The global market is leading to concentration and specialization in ports and shipping. Private sector involvement facilitates the adaptation to this development.

At the beginning of the sixteenth century, the world economy was centered at Venice (Italy). With the advent of accurate marine navigation, the demand for port services in the Mediterranean began to change. As vessels were no longer limited to daylight sailing along coast lines, they ceased to view ports as a daily refuge and began to call only at those with larger volumes of cargo. Producers and purchasers responded to this change by concentrating cargoes and commercial activities at central locations and, as a consequence, the trend towards port consolidation began some four centuries ago. Advances in land
transport, vessel propulsion and construction, and capital-intensive cargo handling equipment strengthened and accelerated this trend, and initiated a shift away from coastal shipping services and a further expansion in the hinterlands of major ports. Greater trade volumes being handled at one port mean that other ports have lost cargoes or that trade volumes have increased, or both. Ports which have lost cargoes must either specialize in certain market segments, become recreational or tourist centers, or die.

E. CONCLUSION

The final beneficiary of private sector involvement in ports are a country's consumers and producers, including labor. The fundamental reason for private involvement in public-sector ports is to create a basis for competition so that costs might be reduced and the quality of services improved.

Competition achieves those objectives by compelling such ports and their workers to face commercial risks, the possibility of financial losses and the threat of bankruptcy. Government agencies operating a port do not have a profit motive, rather a much more relaxed incentive to comply with budgets, and they do not face the risk of bankruptcy. Governments must remove bureaucratic barriers to competition for the entire port community, permit management and labor to negotiate market-oriented labor agreements that respond to local commercial requirements and ensure antimonopoly regimes are equally applicable to cargo owners, port investors and dockworkers. The efforts of public-port administrations to control costs are usually ineffective because they cannot demand commercial standards of behavior from dominant groups such as port labor because Governments have isolated them from the market system of penalties and rewards.
III. THIRD MODULE: MARKET-BASED PORT LABOR REFORM

For the last four or five decades, many developing country Governments have promulgated labor regimes which support dockworkers' desire for job and income security, isolation from market mechanisms and monopoly control of cargo-handling services. These measures have created a highly political environment which foments inefficient work practices, disruptive labor relations, powerless supervision, high costs and overstaffing. In a global economy, the commercial objectives of users and maritime employers, and the social goals of port labor have become complementary and interdependent. Capital and labor are no longer in irreconcilable and destructive conflict because both are means and ends. There is a social base to commercial success, as ports must have well-trained, well-paid, motivated workers. Port workers function in a commercial environment bounded by the service needs of users, and only by responding to them can the labor movement be strengthened. Market mechanisms and antimonopoly laws provide an independent, unbiased standard by which the commercial and social objectives of employers and labor can be brought into equilibrium. To reform labor regimes, Governments need to overcome their deep-seated tendencies to resolve commercial problems with political means, to assume national legislation and policies are paramount to market mechanisms, to believe that their presence in collective negotiations and labor disputes is necessary to arrive at a balanced outcome, and to utilize ports and port labor as political instruments.

A. THE NEED FOR MARKET BASED PORT-LABOR REFORM

The following three factors mandate port labor reform: (i) technological progress which leads to the acquisition of capital-intensive cargo-handling equipment, (ii) the role of macroeconomic policies and the integration into a global economy, and (iii) private participation in public-sector ports. These changes require an evaluation of the various means which might be utilized to improve port efficiency.

1. Technological progress

With technological progress fewer man-hours are needed to handle cargo with a given stock of capital. Cargo units are ever larger and the number of breaks between production, transport and storage are being reduced.

As was mentioned earlier, the bulk handling of liquid cargoes with pumps commenced with the Gluckhauf and has continued without interruption. The handling of dry-bulk cargoes in the early 1950's required 20 men for each cargo hold of a vessel, but 20 years later such cargoes were being handled at specialized terminals and the discharge of much larger bulk carriers can be effected with three men for the entire ship. A 10,000 dwt general cargo vessel would load in five days and nights using 125 dockworkers per shift and a container ship four times its size loaded in slightly less than two days using 15 dockworkers per shift. Each group of the port community responds differently to these technical changes: labor seeks to maintain high levels of employment and benefits, carriers seek to utilize them to reduce vessel times in port, managers of ports seek to achieve a reasonable return on investments, and port users' groups seek to reduce charges and eliminate unnecessary delays. If port labor regimes do not shelter dockworkers from competition, they will have an incentive to utilize modern technologies efficiently and to respond to users' needs.

The evolution towards capital-intensive cargo-handling systems represents a shift from speciality services, or the handling and stowage of individual cargo units, to process services in which large volumes of homogeneous cargoes or standard cargo units are handled in an identical fashion. Governments of many
nations have supported labor, in the name of job security, and sought to hold back this change. As an example of this point, over two centuries ago the introduction of printing was delayed as much as twenty years in Paris by the bitter opposition of the guild of scribes and copyists. This delay had a direct impact on the educational system of that city and required many years to overcome. The scribes and copyists were interested in preserving their jobs and had divorced the printing press from its wider purposes of informing, communicating and educating. Investments in new technologies are necessary conditions for making ports attractive to users, but they must be accepted and utilized by highly skilled workers to be sufficient.

The following table and graph demonstrate the productivity of container operations at ports on the US west coast. The implications of larger volumes of cargoes being handled by ever-fewer dockworkers lead to the question: Will ports ultimately be operated by one man accompanied by his trusty dog, and one computer?

<table>
<thead>
<tr>
<th>YEAR</th>
<th>MAN-HOURS WORKED (millions)</th>
<th>CARGO HANDLED (millions of metric tons)</th>
<th>PRODUCTIVITY (tons/man-hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>29.1</td>
<td>28.5</td>
<td>0.98</td>
</tr>
<tr>
<td>1980</td>
<td>18.5</td>
<td>113.7</td>
<td>6.15</td>
</tr>
<tr>
<td>1987</td>
<td>17.1</td>
<td>157.8</td>
<td>9.23</td>
</tr>
<tr>
<td>1993</td>
<td>15.7</td>
<td>183.6</td>
<td>11.69</td>
</tr>
<tr>
<td>1994</td>
<td>17.0</td>
<td>199.0</td>
<td>11.71</td>
</tr>
</tbody>
</table>

*Source: Pacific Maritime Association.*

Since 1960 productivity has grown 12 fold. Since 1980 employment has remained roughly constant, whereas throughput has grown by almost three quarters.

2. The role of macroeconomic policies and the advent of a global economy

Most governments' economic policies are now firmly focused on integration into the global economy. This implies that commodities, services and unfinished and finished goods are purchased wherever the lowest overall costs - including their transport - are encountered.

From the end of the Second World War until the early 1970's, Latin American countries still utilized import-substitution policies. These policies reserved national markets for domestic manufacturers and led to the inefficient production of many goods, a bias against exports, an overvaluation of domestic currencies, the imposition of import and export duties, and the adoption of currency exchange restrictions. Many costly port labor practices became institutionalized - such as cargo-handling monopolies and inefficient two-shift operations - and they continue to exert a negative influence on the competitiveness of the region's exports in international markets. The high cost and low productivity of ports was of little relevance at that time, as they merely reinforced import-substitution policies by making imports more expensive in national markets. These policies created structural inefficiencies which impeded the competitiveness of port and ocean carriers as well as the goods of exporters and importers. The introduction of
export-led growth policies in the mid-1980's put into sharp relief the pivotal role played by ports in commercial activities and enormously increased their strategic importance in the achievement of trade goals.

The changeover from import-substitution to export-led policies appears simple, but it represents a profound shift that leads to a restructuring of most economic activities. The monopolies that domestic manufacturers enjoyed were eliminated through a reduction in Customs duties so as to permit goods from other countries to compete in local markets. Such competition compelled domestic producers to meet the demands of international markets locally, and prepared them to compete outside national borders. Ports were unsupportive of such policies in the sense that they were inefficient, grossly overstaffed, under the monopoly control of port labor unions and unnecessarily expensive. Such costs and inefficiencies had a negative impact on the prices of both exports and imports. For example, the cost of producing Brazilian soybeans is US$165 per ton and the cost of loading them aboard ship is US$65 per ton for a total of US$230, while soybeans in the US are produced at US$195 per ton and loaded at only US$20 per ton for a total of US$215. The parallel measure which would encourage dockworkers to provide greater support for export-led policies would be the adoption of port labor regimes which expose them to market mechanisms.

With the globalization of trade, ports must be part of cost-effective intermodal distribution systems that contributes to the competitiveness of goods in world markets. This means that ports must have productive dock workers who are paid market-determined salaries, modern cargo-handling equipment and facilities, adequate access for carriers, electronic information systems, and simplified documentation.

3. Private participation in public-sector ports

Companies which bought a port or obtained a concession have to respond to market signals. They cannot exclude part of their operations - labor - from these market mechanisms. If their competitors work at night they also have to do it, and if the technology to save man-hours is available they have to use it.

The predominant role of Governments in ports has created an enormous network of sociopolitical obligations that all but preclude the achievement of commercial goals. This has led governments to consider private-sector participation as a means to establish commercial discipline. Governments are sociopolitical institutions without either the profit motive or the risk of bankruptcy. The continuing regulatory presence of Governments, antimonopoly laws and the natural desires of private entrepreneur to safeguard a lucrative enterprise will all ensure that there is no abuse of market mechanisms by private investors.

4. Mandate

The port labor movement is well aware that private participation, technological progress, and international economic integration, and the resulting market-based labor reform, will lead to redundancies - or at least to less new employment in the case of growing cargo volumes. They know that these three factors have one thing in common: Each increases competition and mandates greater productivity and cost reductions.

Port labor unions believe (or at least they say so) that Government investments in infrastructure, not private participation and market-based labor reform, will improve productivity, lower costs and make users more competitive. The reality is different: It must be avoided that interest groups in ports join together and obtain non-market benefits from Governments which create a commercially unattractive port for users that is unable to compete in a global economy.
B. STRUCTURE OF MARKET-BASED PORT LABOR REFORM

The balancing of labor supply and demand with market mechanisms and antimonopoly laws offer an independent, unbiased standard applicable to both dockworkers and maritime employers to control the size of the workforce without expanding public expenditure or enlarging the role of governments, except for initial retraining and compensation expenses. Competition balances the natural desire of dockworkers and maritime employers for non-market privileges, and compels each to progressively improve productivity, reduce costs, innovate and make needed investments. The essential factor is the avoidance of monopoly control, whether by port labor, maritime employers or governments, of any port service in order to preserve an open, competitive environment. Without a market-oriented port labor regime, a commercial basis for private participation will not be established; without private participation, the port labor movement will have little encouragement to accept a market-based reform of their regulatory regime.

1. Objectives

For nations which create a basis for private participation in their public-sector ports, the primary objective of market-based port labor reform is to increase the speed with which port labor regimes, collective agreements and work practices translate market signals into responses from dockworkers.

For those nations which first corporatize or commercialize their ports, Governments must also provide a means which differentiates between civil servants concerned with bureaucratic undertakings and those employed in profit-oriented activities. The following assumptions are utilized wholly or in part to justify market-distorting port labor regimes and they constitute impediments to the achievement of the aforementioned objectives.

(i) governments must intervene in labor relations because the interests of unions and maritime employers are in irreconcilable and destructive conflict.
(ii) the services provided by dockworkers possessing cargo-handling monopolies can be just as efficient and productive as those provided by the private sector in a competitive environment.
(iii) neither governments nor the port labor movement need respond to market mechanisms.
(iv) it is socially irresponsible for maritime employers to utilize labor-saving technologies.
(v) only with monetary incentives will dockworkers make an effort to improve port efficiency.
(vi) the existence of port labor monopolies, registration systems, political alliances and government subsidies will not lead to an excess supply of dockworkers nor to the payment of unearned benefits.
(vii) the social costs of port labor reform are so high that governments cannot incorporate market mechanisms into labor regimes so as to commercially balance the interests of exporters, importers, carriers, dockworkers and maritime employers.

2. Institutional setting

From the end of the Second World War until the advent of the global economy in the 1980s, port labor unions had a social-political orientation based on the doctrine of "social betterment through labor" and were a major force in national politics. A "social betterment through trade" doctrine will be no more successful than its earlier counterpart unless Governments adopt a port labor regime which ensures that dock workers add value to the goods and services of users and profitability to their employer's activities, that maritime employers respect the capacities of skilled workers and are willing to share workplace decision authority,
and make sacrifices to keep and train them, and that maritime employers and dock workers will jointly offer services which are innovative, productive and cost-effective, and are willing to make changes in their functions in order to respond to the needs of users. To reach these goals, the following activities should be undertaken by Governments:

(i) **Create a commercial setting**: deregulate and decentralize collective negotiations to establish a basis for interport, intraport, interunion, intraunion and nonunion competition.
(ii) **Give priority to commercial goals**: eliminate direct Government participation in port operations, collective negotiations and in informal dispute resolution.
(iii) **Protect competition**: adopt antimonopoly laws which are equally applicable to maritime employers and dock labor to ensure that market mechanisms are utilized only to compete, not to create monopolies.
(iv) **Redefine social equity**: a sociopolitical definition provides income and employment guarantees to ensure purchasing power and greater benefits without corresponding increases in productivity, while an opportunity-oriented definition guarantees redundancy compensation, early retirement, training and retraining programs, and use of job-placement agencies. Compensation payments should be tied to the successful completion of training programs. Job-placement agencies should be utilized to place redundant workers in other fields.

C. THE CONSEQUENCES OF MARKET-BASED PORT LABOR REFORM

1. Economic

The adoption of market-oriented labor regimes will expose dockworkers to market mechanisms and maritime employers will not have to pay them for the political value of their services. They will pay market determined wages, no more, no less.

Dockworkers will be motivated to respond to the needs of users so as to preserve their own earnings and jobs. This will transform ports from sites where dockworkers’ wage and benefit needs are given priority by Governments to sites where port labor will give preference to users' commercial goals. Dockworkers will be recognized as the most valuable asset maritime employers have to create an attractive commercial environment for users, and they will enjoy real authority to influence a wide range of investment and operational decisions. Collective negotiations and strikes will become less important or even replaced by ongoing collaboration and informal dispute resolution procedures, and work practices will be continuously altered to reflect the demands of users, new technologies and a much broader competitive framework. Thus, ports will be transformed from sites where dockworkers’ wage and benefit needs are given priority by governments to sites where port labor will give preference to users' commercial goals.

2. Political

The most salient political consequence of labor reform will be the withdrawal of Governments from direct participation in port labor relations, except as regulators, owners and promotional investors, and collaboration between port labor and maritime employers.

The nineteenth century trade environment was unregulated with labor and capital in irreconcilable and destructive conflict, the twentieth century has been highly regulated to contain such conflict, and perhaps the twenty-first century will come to be characterized by a joining of labor and capital in a
collaborative effort to achieve both commercial and social goals. Conflicts between the port labor movement and maritime employers should decline because the major resources that can be utilized by both to resolve disputes are no longer political, but social and commercial.

For example, the Government of Singapore requires union members and maritime employers renounce their ties with the port industry when seeking election to public office. Regulatory functions of Governments should be limited to the establishment, reinforcement and protection of competition, and to formal dispute resolution. Most commonly, however, port administrations (Governments) still yield to the demands of port labor unions and neither seek to determine nor respond to the commercial needs of users, while ministries of labor (Governments) merely request larger subsidies from treasuries (Governments) to cover greater expenses. Ports are Government agencies, dockworkers are Government employees and collective negotiations are bipartite (Government-labor), not tripartite (Government-labor-employers).

3. Social

The interdependence between commercial and social goals means that maritime employers and port labor will seek to avoid intensifying their disputes in the confrontational court and arbitration systems because they must work together to reach consensus-oriented objectives which require intangibles such as the dynamic best efforts and goodwill of both.

The global economy compels maritime employers to go beyond enterprise efficiency and earnings to train and motivate employees, promote loyalty, collaborate with them and ensure their well-being. Modern technologies are available to every port, but it is the way in which port labor utilizes them that determines the winners and the losers. The demand for dockworkers is derived from the demand for the goods they handle; the costs and productivity of dockworkers directly influence the demand for the goods they handle; and dockworkers must collaborate with Governments, users and employers not only to improve productivity and lower costs but also to enhance their own wages and benefits. In an open competitive port environment dockworkers will come to accept that job and benefit security depends on the commercial success of users and maritime employers, not on guarantees in constitutions and regulations.

CONCLUSION AND ACTION PLAN

A case study is presented by dividing participants into three groups representing two coastal states and a landlocked nation, and guiding them through the application of course principles. Course participants then return to the 11 questions presented at the beginning of the First Module and are encouraged to formulate responses. Finally, participants evaluate and integrate course Modules, the case study and the meaning of those responses to questions so as to develop an action plan for "their" ports which creates a basis for the participation of private interests and permits the market-based reform of port labor regimes.