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Economic Commission for Latin America and the Caribbean

COURSE ON PORT MODERNIZATION:
A Pyramid of Interrelated Challenges

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ABSTRACT

This 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. It begins with a request that they project themselves 10 years into the future and write the titles of articles they read in this morning’s technical press in each of their respective areas. A comparison is then made of port services in 1960 and 2010 and participants are requested to place their projections within that framework. The difference between commercial exchanges of nations in international markets and in a global economy are presented, as well as the changes wrought to competition, product uniqueness and brand loyalty. The options for government to respond to input-to-final product competition of a global economy are evaluated: do nothing, remove barriers to competition for domestic producers, introduce export-led growth policies, recognize that market mechanisms are neutral and "fail" when regulatory regimes permit their exploitation to limit competition or to obtain monopoly rents, and establish commercial discipline in ports through the participation of private interests and market-based port labor reform.

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, customer likes and dislikes, and the threat of bankruptcy. To create such commercial boundaries for ports, governments must adopt a legal regime which deregulates or removes bureaucratic barriers to the unimpeded interplay of market mechanisms, decentralizes ports and makes them responsible for the value consequence of their operations, as well as adopting planning and investment decisions; antimonopoly laws which protect competition, not enterprises from competition; and specific legislation which defines how private interests might participate. Governments must also create a privatization team and specify the steps of the privatization process.

Market-based reform of port labor regimes is mandated by the acquisition of capital-intensive cargo-handling equipment, 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. To accomplish this, governments must create a commercial setting in ports through deregulation and decentralization of collective negotiations; give priority to commercial goals through the elimination of their own direct participation in port operations, collective negotiations and in informal dispute resolution; protect competition through antimonopoly laws which are applicable not only to private terminal operators but also to labor; and redefine social equity in terms of opportunities for retraining, redundancy compensation and early retirement.

At the end of the course, participants are 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.

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 services, markets, 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. It is essential that trade policies and labor regimes preclude monopoly control, and preserve an open, competitive environment. Governments and enterprises in a global economy search worldwide for least-cost inputs, while ports find themselves tied to a particular location and, if that site is not appropriate vis-a-vis major producers and markets, investments in new facilities and rate reductions will bring about only minimal changes. 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. Specialized terminals require large investments as well as frequent and large volumes of cargo, adequate water depth, high-capacity cargo-handling systems and low-cost inland transport services. Computers permit ports, carriers and cargo owners to not only communicate among themselves, but to integrate their activities and enjoy enormous cost reductions as well as productivity increases. The success or failure of ports will come to depend on the speed of turning around vessels as well as the receipt, processing and delivering of both cargo and information.

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 — services, markets, technology and the regulatory framework. 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 such cargoes, and to discuss their projections. It should be pointed out that the course is designed to help them deal with such issues and provide a basis to answer the following questions:
(i) What particular requirements does the global economy place on port services?
(ii) How have markets changed and what are the specific consequences for ports?
(iii) Can port services be isolated from market signals?
(iv) Will user requirements be met if dockworkers are more productive and reduce vessel times in port?
(v) What are the lessons of the industrial revolution and what do they mean for port technologies?
(vi) Must ports accept ever larger scale-economy vessels?
(vii) What are the roles of the public and private sectors in ports?
(viii) What are the four ghosts of commercialization, corporatization and privatization, and how can they be avoided?
(ix) What is the goal of market based port labor reform?
(x) Is there an external unbiased standard which might be utilized to harmonize dockworker and maritime employer demands?

B. SERVICES

1. Characteristics of port services in 1960

A useful place to start the modernization of public-sector ports would be to compare their present goals and objectives with modern trade requirements.

(i) 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.

(ii) Dockworkers are isolated from market signals. They pilfer a shipment of beer bound for North Africa for their own consumption.

(iii) Ports utilize out-of-date institutions and technologies 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.

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

(v) 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.

(vi) 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.
2. Characteristics of port services in 2010

(i) 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. 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.

(ii) Dockworkers are not isolated from, but subject to market mechanisms and their prosperity has become tied to that of terminal 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) Existing constitutional provisions, national laws, policies and labor agreements are neither preordained nor immutable and many of the supposed sociopolitical costs of new operating schemes and technologies are more apparent than real. Governments have retained 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 are provided with counseling to ensure that the funds received are utilized for training, retirement annuities or in other employment generating activities.

(iv) 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. Government involvement creates an enormous network of sociopolitical obligations that all but preclude the achievement of commercial goals. 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 which gives priority to commercial goals and market-based labor regime.

(v) 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 operate. 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 complimentary in a global economy, and cannot be obtained without a collective effort.

(vi) 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 protect the marine environment through the installation of reception facilities for the disposal of oily wastes, garbage and other harmful substances.
C. 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.

Competition between comparable finished goods has been transformed into input-to-final-product competition where each input and final product has its own demanding market requirements. As an illustration of this point, apples from Argentina, Chile, New Zealand and South Africa to buyers in Chicago (USA) create competition between their individual production and distribution networks, and if port labor, road haulage or infrastructure costs are excessive, or productivity is low for any one of them it could result in loss of that market, even though growing and harvest costs might be inferior. A kitchen appliance offered for sale by Faucet Queens, Inc., in the USA 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." No nation can consume all its apples, shoes and computers. The capacity to compare, purchase and employ raw material, labor, service inputs and finished goods worldwide means that no one can escape the competition of a global economy.

Product loyalty in a globally competitive environment is no longer restricted to factors such as historical standards of excellence, perceived status declarations and purchasing habits, but has been extended to encompass the incorporation of advanced components, diversity of models, servicing cost, productivity, and delivery costs and times. A global economy encourages enterprises to search worldwide for technical capacities, least-cost inputs and market-access advantages which can be utilized to create product and service packages that will satisfy consumer desires. This means that in a global economy most goods and services are viewed by consumers as highly interchangeable and largely without characteristics which would make them individually unique. Thus, product and service loyalty have become a fragile link between manufacturers and consumers, and should continue to decline in importance with the advance in understanding of how to utilize and respond to the global economy.

D. TECHNOLOGIES

1. Major changes

The concentration of cargoes in ports with greater cargo volumes began in 1594 with the advent of the marine chronometer. 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 landbridge. 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 chronometer and its utilization with sextants and charts permitted vessels to began skipping ports with lesser volumes of cargoes and this trend has been accelerated today by long-distance land transport services.

The ocean carriage of petroleum is illustrative of the spin-off or separation of homogeneous cargoes from liner transport. It is generally accepted that the first purpose-built ocean-going vessel for the carriage of oil in bulk, the Gluckauf (3,070 deadweight tons), was launched on 16 June 1886. Soon after her delivery a month later 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. General cargoes have resisted this trend due to their nonhomogeneous nature and the need to handle and stow each individual unit. However, the advent of containers as a cargo-grouping unit has led to the utilization of capital-intensive handling systems.

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. The industrial revolution teaches that if a technology reduces costs and increases efficiency it will be utilized and that there is nothing to stop it. Such cost savings and efficiency in handling cargoes led to 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 × 8 feet × 20 feet).

Improvements in port productivity have usually come from investments in new cargo-handling equipment, but the next increase should 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 might be 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
potential for a "keystone space" is currently being studied by the cargo-handling equipment manufacturer MacGregor Navire.

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.

2. Intermodalism

The intermodal integration of activities in a distribution chain 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 USA an intermodal system over the landbridge 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 USA 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 USA 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 USA provide a technological basis for intermodal operations, but the institutional framework which is evolving in Europe to facilitate the uninterrupted movement of goods between a number of countries will probably lay the groundwork for its rapid extension throughout the world.

3. Changes in technology

Technological changes that shorten geographical distances between markets, reduce freight costs or 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 × 110 feet, which preclude the transit of an increasing number of large vessels. PANAMAX vessels—vessels of 950 feet × 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 from the port of Manzanillo has led the Government to call for concession of the ports of Balboa and Cristobal, and the transisthmus railway.

E. INSTITUTIONAL OR REGULATORY FRAMEWORK

1. Major transformations

Francis Fukuyama, in his book *The End of History and the Last Man*, hypothesizes that for centuries mankind has been governed by competing political-economic philosophies, but today a liberal democracy and an open market have proven themselves to be the best way to satisfy peoples' needs. 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. In open-market economies governments should retain certain functions, such as regulators, owners and promotional investors, but 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. With the unavoidable economic transformations now occurring, the utilization of ports to fulfill sociopolitical objectives can no longer be justified.

For many years governments have assumed responsibility for the economic development of their respective nations, and there was a mistrust of the private sector and market mechanisms. The standard argument to support government involvement in the port industry is that they had to participate for reasons of economic security, employment generation and national defense. National sociopolitical and strategic requirements were more important than commercial goals. With the advent of a global economy and the end 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 market mechanisms do not work, but for the deeper reason that governments do not adopt appropriate regulatory regimes which protect such mechanisms from abuse and ensure that dominant port groups can utilize them only to compete. Market mechanisms are neutral and "fail" when regulatory regimes permit their exploitation to limit competition or to obtain monopoly rents.

Ports became an international commercial undertaking with the introduction of open-market policies and the advent of a global economy. 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 participation in collective negotiations and 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 commercial chain which encompasses production and distribution systems. Ports have come to play a pivotal, promotional role in international trade and directly influence the competitiveness of the goods in global markets. In 1994, the USA’s trade with Asia totaled 6.7 million TEUs; with Europe,
2.4 million TEUs; and with Latin America, 1.8 million TEUs. In that same year, 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 USA 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.

2. International agreements

Economic groupings in both the northern and southern hemispheres, imply a reduction in Customs duties for commercial exchanges between members, and enhanced cargo volumes for ocean carriers and ports. The success of an economic integration scheme is usually measured by the degree to which trade between its members has increased, but this does not mean that commercial activities between them and other countries should necessarily decline. Probably the most important consideration for carriers will be the impact of the wider market on vessel routings, port and inland transport services, and on economies of scale. 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 member States. They may have access to cargoes which were historically unavailable, utilize ports which have greater inland transport connections, and find themselves becoming part of specific distribution systems. This could lead to greater competition among ports and to increasing scrutiny of subsidies given them by their governments. None the less, certain nations members of the same economic group have restricted the import of and automobiles and tomatoes to protect domestic producers.

Forty-two major trading nations participated in talks at the World Trade Organization (WTO) which sought to liberalize or deregulate ocean shipping. By the end of May 1996, however, talks were paralyzed after the Government of the USA withdrew because of a lack of real interest being demonstrated by other nations to open their transport markets to world participation. The deregulation of ocean shipping is controversial, but should not be; spending more public money on the industry, whether through subsidies to or the ownership and operation of national shipping lines, is not controversial, but should be. Deregulation would ensure commercial, not sociopolitical responses, to market signals, but government involvement in the industry is generally supported for reasons of economic security and national defense. With the advent of a global economy and the end of the cold war those reasons have lost much, if not all, of their validity, but governments still respond to pressures from dominant groups to protect them from “market failures”. Thus, the functioning of market mechanisms can be distorted and misused by monopoly 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) from 16 May to 2 June 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.

3. Limits to the free-market model

The free-market model does not cover all situations, because there are geographic, environmental, labor, and political factors that also come into play.
(i) **Geographic.** The linking of raw material supply, production and consumption, whether within a city, state or nation, has been prevalent throughout history. Henry Ford, for instance, paid no one in his automobile factories less than US$5.00 a day so that they could buy his famous Model T. He knew that mass production is based on mass consumption, an equitable distribution of income, and that his prosperity was tied to theirs. Ford sought to extend the boundaries of the national automobile market through wage increases for workers. The term "market" was used to denote an economic coherence for a product or group of products within a state, but the era of semiautonomous national economies is fading fast as enterprises search globally for technical capacities, least-cost inputs and market-access advantages. Today, enterprises combine labor, capital and material inputs from numerous nations and sell their products in yet other nations. They ensure their goods are competitive in very demanding international markets by controlling the cost of each input and maintaining high productivity, both of which directly influence the job security and compensation of labor. This seems to place enterprises above the wellbeing surrounding markets and the needs of workers because their destinies are now tied to international consumers many time zones away, and this has led to efforts to create links between labor standards and trade.

(ii) **Environment.** Public-purpose objectives for ports go beyond market goals and seek to achieve the greatest wellbeing 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 the regulatory regimes which govern their endeavors. 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) with its various annexes on areas which range from oily substances to sewage and garbage.

(iii) **Labor.** Collective negotiations are undertaken to formulate commercial agreements which control the work-remuneration relationship of maritime employers and port labor for a specified period of time. Governments began participating in such negotiations to balance the bargaining relationship, administer and validate resulting agreements, and resolve controversies. Collective negotiations are viewed by labor, political parties and the government 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. Direct government involvement in collective negotiations has become unworkable because the competition of a global economy intensifies the differences between commercial, political and social goals, and limits the utilization of subsidies and market restrictions by governments to harmonize them. To balance negotiating interests, motivate dockworkers and avoid political pressures, governments must adopt a regulatory framework which subjects negotiating parties to market mechanisms and antimonopoly laws.

(iv) **Political.** The history of the labor movement in many countries has paralleled the history of dominant political parties. This has led to overstaffing, and wages and working conditions which do not reflect market conditions. Dockworkers will 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. Union leaders cannot be reluctant to enforce on their members commercial discipline which leads to increases in productivity and cost reductions, or to expose those groups of workers who are utilizing ports for personal enrichment.

F. CONCLUSION

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. These and many other factors emphasize that ports have evolved from national to international industries.

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 oversized workforce. Without eliminating these conflicting objectives, a decisive opportunity to enhance the competitiveness of the goods handled will be lost. To accomplish this task, governments have begun to consider 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, deregulation, decentralization, an antimonopoly regime and a public-sector agency to balance competing interests so that no one can utilize market mechanisms to obtain monopoly rents.

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:
A public outcry against high port costs, inefficiencies, robberies 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. A political platform often lacks long-term support and is easily circumvented with a change in government. 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 cite (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, and (iii) the loss of central government control of ports for economic and strategic reasons.

B. DOMINANT GROUPS AND MARKET MECHANISMS IN A GLOBAL ECONOMY

The competition inherent in a global economy means that carriers, importers, exporters, governments, labor and ports are subject to market mechanisms. To understand such mechanisms, it is necessary to identify them and understand how they function so as to determine not only their economic consequences but also what measures should be included in and excluded from a nation’s regulatory framework.

1. Market mechanisms

As used by economists, “market mechanisms" is a term that is academic or all but meaningless at the operational level. Market mechanisms encompass the laws of supply and demand, profit and loss, scale economies, managerial autonomy, customer likes and dislikes, and the threat of bankruptcy. Such mechanisms are neutral and without an appropriate regulatory framework 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 production, 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 and the risk of bankruptcy, it became clear to corporate directors and workers that only through their own endeavors would they avoid bankruptcy and that focused their minds and efforts on one specific common goal: providing the services demanded by the public so that they might commercially survive.

(iii) **Economies of scale.** Scale economies in manufacturing refer to a reduction of average production costs as the size of a plant increases. The objective of scale economies is 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 and acquiring advanced cargo-handling equipment to lower the average costs per unit of cargo. The exploitation of scale economies in ports is limited by 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) **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 the support of 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.

(vi) **Threat of bankruptcy.** Most public-sector ports are government agencies that operate in a socio-political framework which has a bias against risk-taking and innovation, and permit 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 specter 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 is 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 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 pilfered 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 macroeconomic 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

There are a number of legal measures which have to be adopted to create a basis for private participation in public-sector ports.

(i) **Deregulation** refers to 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** seeks to make each port autonomous and 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 macro-economic 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** seek to avoid the specter 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. 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. Economic regulations attempt to satisfy national growth goals through the involvement of public-sector officials in day-to-day commercial activities of enterprises, and antimonopoly laws lead to such involvement only when private interests utilize market mechanisms to restrain consumers’ choices or exact monopoly rents. National antimonopoly commissions which 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.
(iv) **Specific legislation** should be adopted by governments which promotes private sector involvement in port services and facilities. That framework should create a basis for private investors 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 that can be utilized to determine their values, safeguard the property rights of investors, and specify any advantages or consideration accorded private interests of the country in which the port is located. 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", "inadequacy of existing services or facilities", "benefits to the public" or the "lack of adverse effects on existing operators". The legislation can 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**

A strategy and process should be formulated for the transfer of port operations to private investors.

(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 such 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 which will provide an attractive investment environment for private interests.

(ii) **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 that framework.

(iii) **Identify and define the elements of the privatization process.** The process should begin by offering the port with 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 percent of cargo volumes or profits. 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 handling reduced cargo volumes will often induce major investors to wait for the nation’s largest port or encourage them to look at other ports that might handle the same commercial flows. This can be determined by considering the competitive setting of the port in question vis-à-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. The time required by a government to restructure its public-sector ports should not exceed the period or term of its own authority.

D. IMPLICATIONS

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 economic, political and social implications of such a change are as follows.

1. Economic

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.

Following the conversion of New Zealand harbor boards into limited liability companies and a rationalization of the work force, ports of that country immediately became more productive and have generated cost savings for users. For every job lost on the New Zealand waterfront, another 10 were generated in other sectors by eliminating productivity and cost bottlenecks caused by the ports. 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.

2. Political

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. 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 would not create large-scale employment opportunities for noncitizens or decrease the inflow of foreign exchange. Ports are site and customer specific, and purchasers or concessionnaires would make investments in those sites and in those customers, and would earn a return on investment from them. Dockworkers would 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 appropriate 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

Governments must be sensitive to the concerns of labor and safeguard its interests by including provisions in agreements with private enterprise which require the latter to offer employment to existing workers at nationally competitive wage rates, as well as early retirement benefits and compensation to redundant workers. The compensation programs for redundant workers at the ports of Chile cost a total of US$30 million and New Zealand’s expenditure was US$28 million, while the Government of Venezuela paid double indemnification to workers, which amounted to a total of US$182 million. The United Kingdom 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. At the same time, redundant dockworkers eliminated through 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

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 into recreational or tourist centers, or die.

E. CONCLUSION

In today’s world of deregulated, intermodal and electronically connected distribution functions, ports must have an institutional framework which permits the attainment of commercial objectives, facilitates private
sector investments, allows users to have a voice and vote in port matters, provides for managerial autonomy, improves the authority of directors to make commercial decisions, assigns performance accountability, rationalizes labor requirements, ensures that realistic investment decisions are being made, and promotes interport, intraport, interunion, intraunion and nonunion competition.

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 complimentary and interdependent. Capital and labor are no longer in irreconcilable and destructive conflict because both are means and ends. Port workers function in a commercial environment bounded by the service needs of users, and only by responding to these needs 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. Indeed, the utilization of that standard will come to demonstrate that there is a social base to commercial success. 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. MARKET-BASED PORT-LABOR REFORM

There are four factors which mandate such reform: (i) the acquisition of capital-intensive cargo-handling equipment, (ii) the role of macroeconomic policies, (iii) the advent of a global economy, and (iv) private participation in public-sector ports.

1. The acquisition of capital-intensive cargo-handling equipment

The handling of dry-bulk cargoes in the early 1950’s at ports in the United Kingdom required 20 men for each cargo hold of a vessel. By the mid-1970’s, such cargoes were being handled at specialized terminals and the discharge of much larger bulk carriers was effected with a total of six men for the entire ship. Twenty years later, the loading of grain is carried out by three men and the technology utilized permits one man to execute all operations. With regard to general cargoes, a 10,000 dwt general cargo vessel, the SS Orizaba, would load in five days and nights using 125 dockworkers per shift and a ship four times its size, the Hawaiian Queen, loaded in 17 hours using 15 dockworkers.

The following table demonstrates the productivity of container operations at ports on the west coast of the USA. 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? The principal argument against containers is that they were developed by industrialized nations for their trade flows and should not be utilized by developing countries because they create unemployment in ports. However, the counter argument is that general cargo ships have to be unloaded by expensive dockworkers at European, North American and Far Eastern ports, where uncontainerized exports from developing country would not be competitive.
2. The role of macroeconomic policies

From the end of the Second World War until the early 1970's, Latin American countries 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 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. 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.

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 USA are produced at US$195 per ton and loaded at only US$20 per ton for a total of US$215.

3. The advent of a global economy

(See First Module: Structural Changes; section C. Markets in a Global Economy.)

4. Private participation in public-sector ports

Governments are sociopolitical institutions without the profit motive or the risk of bankruptcy. The continuing regulatory presence of governments, antimonopoly laws and the natural desires of private entrepreneurs to safeguard a lucrative enterprise will all ensure that there is no abuse of market mechanisms by the private investor. The port labor movement is well aware that privatization and market-based labor reform will lead to redundancies.
5. Mandate

What do the above four factors have in common? Each increases competition and reduces the demand for port labor.

(i) The major problem – labor, unemployment, votes, social dumping.
(ii) The need – reduce the costs of transition and create new jobs.
(iii) The answer – opportunity-oriented social equity.

B. STRUCTURE OF MARKET-BASED PORT LABOR REFORM

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. Primary objective

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. This is the key to commercial success in a global marketplace.

2. Institutional setting

Market mechanisms – supply and demand, profit and loss, scale economies, customer likes and dislikes, and the threat of bankruptcy – offer an external standard to harmonize the demands of dockworkers and maritime employers, and compel each to progressively improve productivity, reduce costs, innovate and make needed investments. Governments should seek to ensure that the institutional framework governing port labor creates a market oriented environment in which people and groups can collaborate with each other, despite conflicting or incompatible interests. Governments should:

(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: sociopolitical definition – income and employment guarantees to ensure purchasing power and greater benefits without corresponding increases in productivity; opportunity-oriented definition – redundancy compensation, early retirement, training and retraining programs, and use of job-placement agencies. Compensation payments should be tied into the successful completion of training programs. Job-placement agencies should be utilized to place redundant workers in other fields.
C. THE CONSEQUENCE 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.

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. Most commonly, port administrations (governments) 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). Regulatory functions should be limited to the establishment, reinforcement and protection of competition, and to formal dispute resolution.

3. Social

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 wellbeing. The knowledge, experience and intelligence of dockworkers is a resource that can make a major contribution to the earnings and competitiveness of ports and maritime employers. In an open, competitive port environment, dockworkers will come to accept that job and benefit security depends on the success of users and maritime employers, not on guarantees in constitutions and regulations. Maritime employers and port labor unions will recognize that their commercial objectives and social goals are intertwined, and that neither can be achieved independently. 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; 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.

D. CONCLUSION AND ACTION PLAN

Return to the 10 questions presented at the beginning of the First Module and encourage participants to formulate responses. Then, discuss the meaning of those responses so as to develop an action plan for the participants’ ports which creates a basis for the participation of private interests and permits the market-based reform of port labor regimes.