PORT REDEVELOPMENT IN MEXICO UNDER PRIVATE CONTROL

by

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Submitted to the Department of Civil Engineering
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ABSTRACT

After decades of centralization and government control, port infrastructure development and provision of services in Mexico are being transferred to the private sector. As the country prepares to enter the 21st century, port infrastructure will play a key role in strengthening and diversifying Mexico's international trade. The commitment to port improvement should remain strong despite currently weak economic conditions: construction, management, financial, political, institutional and legal issues should be adeptly addressed to improve port performance. The process of privatization of the Mexican port system is considered from these several perspectives. Since this process is of national and international significance, the experience of other countries in port infrastructure and privatization is used as a base for international comparisons.

Worldwide, ports are quickly strengthening their role as strategic gateways for foreign trade. Ports continue to evolve as technology transfer facilitators, and can play an extremely important role supporting countries' economic development and reaching equitable distribution of growth. Those countries not able to trade effectively in today global economy endanger their economic prospects and are likely to suffer reductions in their range of industrial activities. In the coming era, abundance of natural resources is no longer a determinant factor for competitiveness. Advancing technology in ports and in shipping, along with increasing operational and modal integration, are introducing radical changes in port industry.

The private sector faces a tremendous challenge to improve the Mexican port system's competitiveness, given the context of increasing maritime internationalization and technological change. The complexity of the needed transformation is notable. The goal of this thesis is to consider how the variables involved in the privatization process and trends of port international activity can affect its success. Port privatization goals in Mexico must be extended beyond the system's economic, financial and management consolidation. The approach should be strategic if the Mexican port system is to be competitively positioned for the future. Infrastructure redevelopment strategic actions are proposed to achieve this goal.

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This Thesis is dedicated to

Fidias and Velia, my parents

Javier and Fidias, my brothers.

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CHAPTER 1 INTRODUCTION

Adequate infrastructure is a critical factor for economic diversification, expansion of trade and productivity enhancement. During the past seven years, the Mexican government has changed its infrastructure development and services provision policies. Private sector involvement has experienced continuous growth, as a key feature of the Mexican program of modernization. The commitment to privatization in Mexico has assumed considerable prominence, but at the same time it has raised fundamental questions about the proper role of the government, and the proper definition of private sector responsibilities to respond to the diverse interests and needs of the Mexican society. Adding complexity to this issue, Infrastructure privatization in Mexico is being carried out in an adverse macroeconomic environment, after years of apparent stability. Therefore, several new issues emerge and need to be resolved in Mexico if new programs to privatize infrastructure are not to face severe reversals. All of these issues require analysis of this process from different, but interrelated, perspectives. Former privatization efforts in Mexico have left important lessons.

Port infrastructure development and provision of port services is one of the recently started privatization programs in the country. The program deals with a Mexican port system which exhibits absence of competition and, and above all, construction and technological delays are characteristics. Decades of centralization and government control prevented the consolidation of workforce, fixed infrastructure, equipment and development of cutting edge technology and port management skills. Trade diversification is urgently needed in Mexico in an era in which abundance of natural resources is no longer a determinant factor for gaining competitiveness.

Revitalization of our port system is a priority. National port development should effectively respond to the trends of international maritime activity, since changes in technology have affected the structure of the world's port industry. Bigger ships, advanced information technology systems, and increasing efficiency of cargo handling and ocean and inland transportation services are main changes that have affected the market power of ports, significantly raising competition among terminals. All these issues call into question traditional port policies based on state control. Focus on port performance raises new questions about the strategies of port administrations to provide services.

The critical role that the Mexican ports will play as strategic gateways, foreign trade channels and technology transfer facilitators can provide the strongly required momentum in Mexico to support, sustainable economic development and equitable distribution of growth. Port management and concessionaires have to address the problems of the Mexican port system from a wider perspective, if sound competitiveness is to be built. The first step is to understand the evolution of the port system in Mexico over time and identify the issues that have made the ports in Mexico non competitive. Resolving these issues provide the base for the future. To succeed, it is necessary to understand the proper function of the ports in Mexico and their economic, technological effects and options for their improvement. The alternative to improving management and operations has been to privatize the system, strongly impacting the national port institutional structure, organization and procedures.

Therefore, it is necessary to establish a framework to analyze the context and scale of port privatization in Mexico, including economic, legal, regulatory, management, operations, and construction issues. It has to be considered that given the current instability of the Mexican economy, a great challenge is to design a sustainable strategy for attracting both, domestic and foreign investment. Then, the potential of the process of transfering port activities to the private sector to correct the managerial vices can be evaluated. However, it is clear that the government is to play key role as ports are redeveloped in Mexico. Besides creating adequate links between port improvement and national development, the Mexican government faces the challenge of assuming an effective position as director of the national port strategy. Thus, the redefinition of the role of the government must also be considered.

If port privatization in Mexico is only analyzed from its own domestic viewpoint, improvement of the port system will be performed from a narrow perspective: It is necessary to take advantage of former lessons learned from port systems' transference in other countries. Only in this way it will be perceived that the objectives of port privatization in Mexico are broader than in other countries and can have more transcendent effects. In the present work, all the mentioned issues are analyzed and recommendations are made regarding each aspect. In addition, the port privatization experiences of other countries are related to the Mexican case, by means of international comparisons.

International changes in port environment have to be assessed, since the evolving forces of sea transportation and global competition are demanding countries make constant

improvements in maritime infrastructure. Ports are going to experience continuous and radical changes worldwide, due to the advancements in port and shipping technologies and operations. It is imperative that Mexican ports reach the same rate of transformation to compete in a sustainable way internationally. From this stems the requirement of a different port privatization approach in the country. Strategic objectives and a framework of strategic actions are proposed in this thesis to address these issues of change, and the critical role of containerization and intermodal transportation as channels of technology transfer and development is discussed.

The present thesis includes a case study of the implementation of the Mexican port privatization program, exemplified by the concession of the specialized container terminal at the port of Veracruz. This provides the opportunity to evaluate more specifically the privatization scheme itself, the bidding process, contractual agreements, valuation of assets, financial issues, risks and the role of Mexican constructors and foreign companies in forming strategic joint ventures. Recommendations on container operations and management are made. The study concludes positioning the Mexican ports and their management in the future, within the international maritime activity.

CHAPTER 2 MEXICAN PORT SYSTEM ANTECEDENTS AND BACKGROUND

2.1 COASTAL AND PORT DEVELOPMENT

2.1.1 EVOLUTION OF PORTS IN MEXICO

The objective of this section is to identify long term historical issues that have affected port infrastructure and services in Mexico throughout time. This will permit an understanding of the deeply established cultural and planning aspects that have raised the need for a change in port development perspective, now being carried out by means of the privatization effort.

Currently and historically, none of the major cities of Mexico has been a port, despite the fact that the country has approximately 10,000 km of shores[1]. Since colonial times, main population settlements were located at the central zones and high plateau. The port of Veracruz, as the commercial exit to Europe, was the only point on the east coast that had maritime importance. Historically, it has been under strong governmental control. The mining centers attracted most of the people to the center of the country and control over territory was centralized at Mexico City. The colonial government reserved for itself all the administrative activities and infrastructure development initiatives.[2] The strategic-centralized provision of infrastructure, characteristic of the monarchies of Spain and France, was strongly inherited by their colonies, whereby their first independent governments adopted the same policy. Those governments did not have administrative experience and were not able to implement planning schemes according

[1] Puertos Mexicanos, "Oportunidades de inversion en la privatizacion de los puertos Mexicanos." Puertos Mexicanos, 1993; p. 2; Colegio de Ingenieros Civiles de Mexico, Ingenieria Civil, "Puertos: La Frontera Olvidada", Febrero 1987; p. 7

[2] Colegio de Ingenieros Civiles de Mexico, Ingenieria Civil, "Una Historia Mediterranea", Febrero 1987; pp. 20-21

to the particular needs of their countries, specifically the need for integrated territorial development. The administrative centralization was strengthened by the several invasions that Mexico suffered during the postcolonial period. Since the threats coming from the sea were constant, the ports acquired extreme strategic importance for national security, and therefore their control was strictly reserved by the government[3].

The location of the main commercial activities at the center of the country and the centralized supply of maritime infrastructure and services are tendencies that have remained until recent times. When Mexican foreign commerce began to be mainly directed northward to the United States, the wide border between the two countries stimulated road transportation and caused maritime commerce with Europe to decrease drastically. At that time, foreign transportation companies began to take control over maritime trade in Mexico. Progressively, growth of the oil industry transferred resources and motivated the economic development of the southeast coastal zones and prompted the growth of some port cities. The final outcome has been a weak commercial maritime infrastructure in contrast with strong oil ports facilities (where only oil derived products are handled). The purpose of this work is to analyze the process of privatization and redevelopment of the commercial ports. Government's Petroleos Mexicanos will continue controlling the oil maritime terminals. The oil based Mexican development plan led to the creation of the oil and Industrial ports programs, which aimed to attract to the coastal zones those industries able to use the nearby available oil resources in their production

[3] Colegio de Ingenieros Civiles de Mexico, Ingenieria Civil, "Una Historia Mediterranea", Febrero 1987; pp. 20-21

processes.[4] However, this was not enough to stimulate an integrated and even coastal growth in Mexico. In addition, all the activities: infrastructure construction, dredging, maritime signalization, equipment supply and operation, remained under governmental control[5]. The lack of incentives to constantly improve the ports' performance neutralized the potential benefits of the intensive construction of infrastructure at the industrial and oil ports. Another relevant issue to mention is the wrong governmental perspective of coastal development as just related to port development, ending with the consequent general lack of maritime trade culture of the population in these zones[6].

The Mexican ports infrastructure development throughout time had been negligible until the 1950's when the industrialization process started[7]. This period represented the main stage of ports infrastructure construction. During that time, rationalization of the terminals' existent infrastructure and construction of new ports, mainly using them as exit for exports of agricultural products, motivated the development of three of the most important ports on the Pacific: Ensenada, Guaymas and Mazatlán. In addition, the infrastructure of the ports of Manzanillo, Salina Cruz, Tampico, Veracruz and Coatzacoalcos were improved and international traffic, destined for Mexico, but handled by foreign ports, began to be attracted to Mexican terminals. The next decade uncovered the deficiencies of the system: lags and obstacles raised by mismanagement, as a result of lack of administrative and organizational flexibility. Inadequate

[4] Colegio de Ingenieros Civiles de Mexico, Ingenieria Civil, "Los Puertos Industriales Mexicanos", Enero 1982; pp. 38-43
[5] Colegio de Ingenieros Civiles de Mexico, Ingenieria Civil, "El Sistema Portuario Nacional", Enero 1982; p. 11
[6] Colegio de Ingenieros Civiles de Mexico, Ingenieria Civil, "El Desarrollo Costero en Mexico", Febrero 1987; p. 9
[7] References to this topic can be found in: Colegio de Ingenieros Civiles de Mexico, Ingenieria Civil, "El Sistema Portuario Nacional", Enero 1987; pp. 9-27

maintenance also played an important role, causing performance delays. Over this time, the equipment was not modernized, and reached the limits of its capacity, lagging behind the new needs that emerged as technical innovations were developed in maritime transportation. The lack of training programs for port workers also represented a critical issue that caused an increase of work risks and suboptimal cargo handling. In the 70's, the port administration's response to the growing oil industry was the Oil and Industrial Ports Program. Results of the program were the ports of Lázaro Cárdenas in the state of Michoacán, El Ostión in the state of Veracruz and Altamira in Tamaulipas. The latter currently plays an extremely important role within the system. In the 1980- 1990 decade, the government improved the infrastructure of the main industrial and oil ports and began to introduce equipment and infrastructure for operating containers. Due to the intensive capital investments needed, the programs were not able to catch up with current port technology and changing national economic conditions made those efforts more difficult. Topolobampo in Sinaloa is an outcome of this stage. The schemes of the 1980's strongly relied on the government's Fondeport, a trust for the development of industrial ports, marinas and experimental industrial fishing ports.

2.1.2 PLANNING PERSPECTIVE: A PROBLEM OF CONSISTENCY AND INTEGRATION

The issues involved in coastal development are varied and complex, and therefore, adequate planning acquires critical importance[8]. Port development in Mexico has not been the result of continued actions, consistent with the growth of the country, although the federal

[8] Personal Interview, Ing. Hector Lopez Gutierrez; December 1995

centralization that dominated the system over time was in a certain way a good opportunity for implementing a national strategy. Port infrastructure services were undertaken out of a business framework, and limited to fulfill budgetary requirements without regard to profits[9]. The latter caused allocation of subsidies without restraint, a key reason for the failure of ports operations in Mexico, where profitability has never been the aim. The centralized administration of all of the terminals, plus excessive governmental financial support, did not allow competitiveness to emerge.

The planning inconsistencies that were present as time passed, did not permit the development of required technological mass. Given this context, it has been very difficult to establish sustained support for adequate programming and planning[10]. Even more difficult have been to perform these activities under regional integration. In the same way, the lack of expertise in coastal management did not permitted the establishment of hierarchical system sets or identify priorities. The economic growth of the country in its central region caused the country's communications to heavily rely on roads. Port systems not only are a link with road, rail and ship transportation but also represent a link between two types of trade. Planning inconsistency in ports was linked to investment inconsistency. The outcome was unevenness in transport capacity and incompatibility among rail, railroad and port systems. Port problematic in Mexico implies a process of growth transfer among different industrial zones[11]. The same can be stated about managerial skills, which are less developed regarding maritime activities. A summary of the

[9] Colegio de Ingenieros Civiles de Mexico, Ingenieria Civil, "El Desarrollo Costero en Mexico", Febrero 1987, pp. 9-15
[10] Personal Interview, Ing. Hector Lopez Gutierrez; December 1995
[11] Colegio de Ingenieros Civiles de Mexico, Ingenieria Civil, "El Desarrollo Costero en Mexico", Febrero 1987, pp. 9-15

identified problems, which represented throughout time serious obstacles for the progress of the ports system, and has motivated the current change in perspective towards privatization, follows:

- Deep centralization

  -Political inconsistency and lack of strategic planning.

  -Absence of competitiveness among ports and coastal regions.

- Government absolute control, which caused:

  -Lack of managerial independence and absence of incentives for improvement and efficiency.

  -Lack of accountability and transparency of information.

  -Port activities have not always been developed following the logic sequence: Planning - organization - regulation - implementation.

  -Technological delays which have been derived from hindrance of initiative.

- Construction of infrastructure, dredging, operation and equipment supply were inefficient and bureaucratic, by lack of meaningful competition.
- Uneven development of rail, road and port systems.
- Lack of integration of coastal regions.

2.2 EVOLUTION OF THE ADMINISTRATIVE ORGANIZATION OF PORTS IN MEXICO[12]

[12] References to the evolution of the port federal agencies in Mexico can be found in: Colegio de Ingenieros Civiles de Mexico, Ingenieria Civil, "El Sistema Portuario Mexicano"; Enero 1982, pp. 9-35

Though federal centralized, the public administration of ports had always been fragmented in several agencies. The planning result was a sequence of independent programs which did not bring into focus the system's concerns. The federal agencies in charge of port activities carried out their functions without continuity and coordination among themselves. Bureaucratization and managerial vices led to inefficiency, high cost of operations, and steadily increasing allocation of federal subsidies. The impacts on the national industry, the share of international trade movements, and on governmental expenditure have been significant.

Before 1970, the ports were managed by the Secretaria de Marina (Navy) which performed port development with a narrow focus. The involvement of other governmental agencies in ports activities divided the authority over the ports into eight agencies. In the late 60's, the control over the system was totally transferred to the Secretaria de Comunicaciones y Transportes (SCT, Ministry of Transportation). In 1973 the SCT created the Comision Nacional Coordinadora de Puertos (CNCP, Ports National Coordination Commission). This government agency would coordinate port activities and services. At each of the important ports a public enterprise of ports services was created, which were also coordinated by the CNCP. This allowed users to know the specific services available at each port. The effort did not stimulate decentralization. The most important task of the CNCP was the planning of port development. The CNCP began to realize the needs of integrated port planning and increasing articulation with other transportation modes. The government was the provider of services, and the labor unions and users participated with the CNCP in the elaboration of the regulatory structure. The construction of infrastructure remained under the control of the recently created Subsecretaria de

Puertos y Marina Mercante (Underministry of Ports and Shipping). This agency was integrated by the divisions of maritime works, dredging, maritime signalization and the Direccion General de Operacion Portuaria (General Direction of Operations), whose objectives were consolidation of authority and productivity enhancement. In 1984, after the issuance of the Mexican modernization program of State Owned Enterprises (SOE), The Secretaria de Comunicaciones y Transportes proceeded to divest some of the port related agencies with the intention of rationalizing the sector. Among these agencies were the Coordinacion General del Programa de Puertos Industriales (Industrial Ports Program Commission) and the Fideicomiso para equipamiento maritimo y portuario (Trust for maritime equipment), which after their creation, just substracted from the CNCP functions and responsibilities. This caused overlapping of authority.

The need of consolidating in a single agency the control of port activities, including maritime construction and dredging, persisted until 1989[13]. In addition, a unifying criteria for the management of the different kind of ports was required. The creation of the agency Puertos Mexicanos in 1989 and the divestment of the CNCP, permitted to the federal government the concentration in a single agency of the policy definition and planning tasks. Besides this, Puertos Mexicanos would also undertake the construction of maritime and ports Infrastructure, dredging and operation of services. The organization chart of Puertos Mexicanos and its position under the SCT organization are shown in figure 2.1. and 2.2 (Source [13]). The Issuance of specifications and standards for maritime construction, equipment supply and acquisition approvals were also

[13] SCT, Puertos Mexicanos: Manual de Organizacion: Antecedentes, Mexico 1992, p. 4

responsibility of Puertos Mexicanos. Among other functions, the agency has been in charge of the following[14]:

- Control of Statistics and information on infrastructure and operations. Evaluation of port activities performance.
- Provision of the wide range of port services and control over their business units.
- Management, use of infrastructure and issuance of permissions and evaluation of concessions.
- Evaluation of the financial and fiscal position of the SOEs providers of ports services
- Negotiation of international agreements
- Motivation and promotion of the private sector participation in port activities.
- Leading the privatization program and perform all institutional, structural, regulatory and legal required changes.

[14] SCT, Puertos Mexicanos: Manual de Organizacion: Atribuciones, Mexico 1992, pp. 7-29

Figure 2.1

Organizational Structure of SCT (Ministry of Transportation)

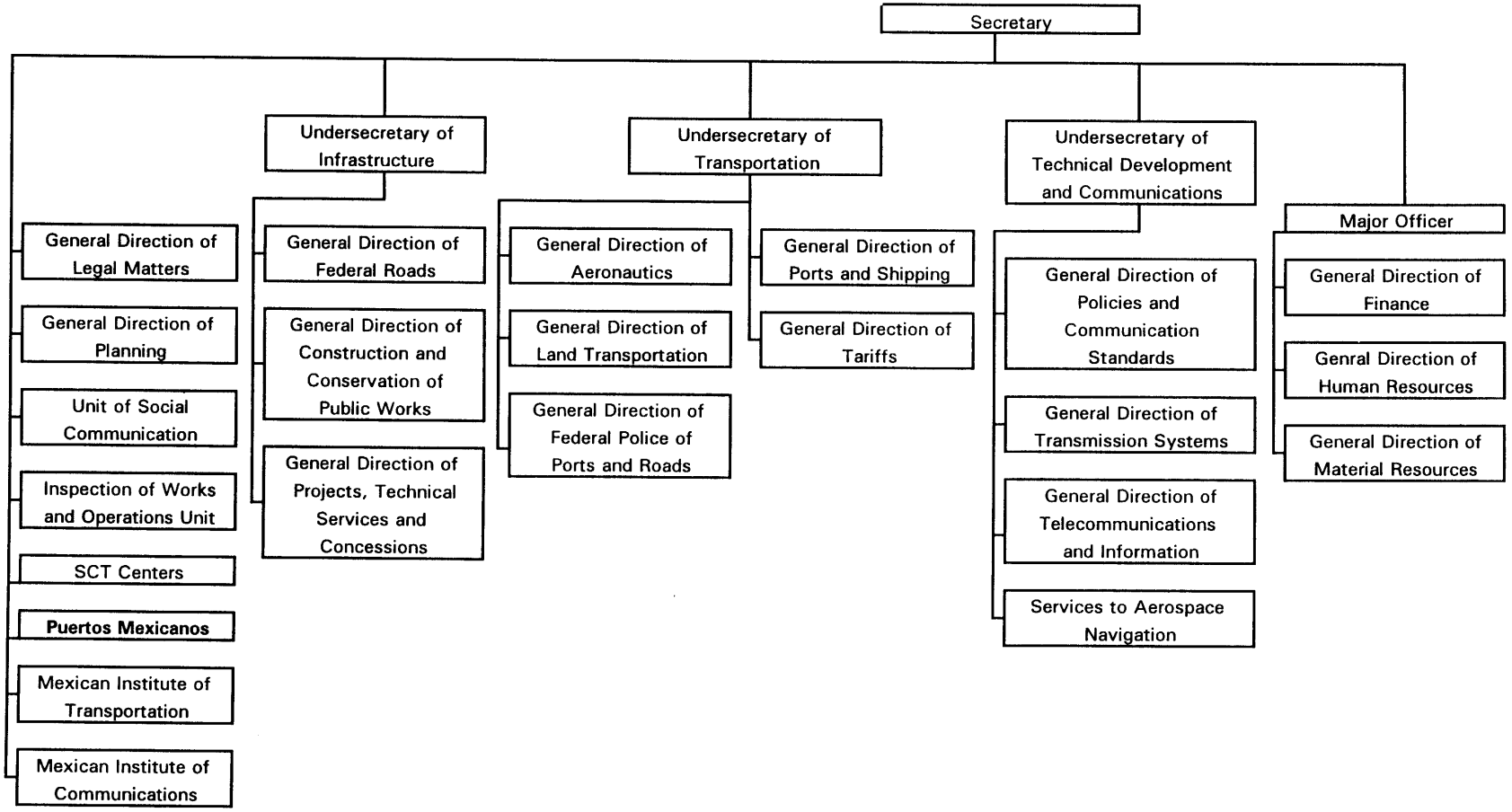
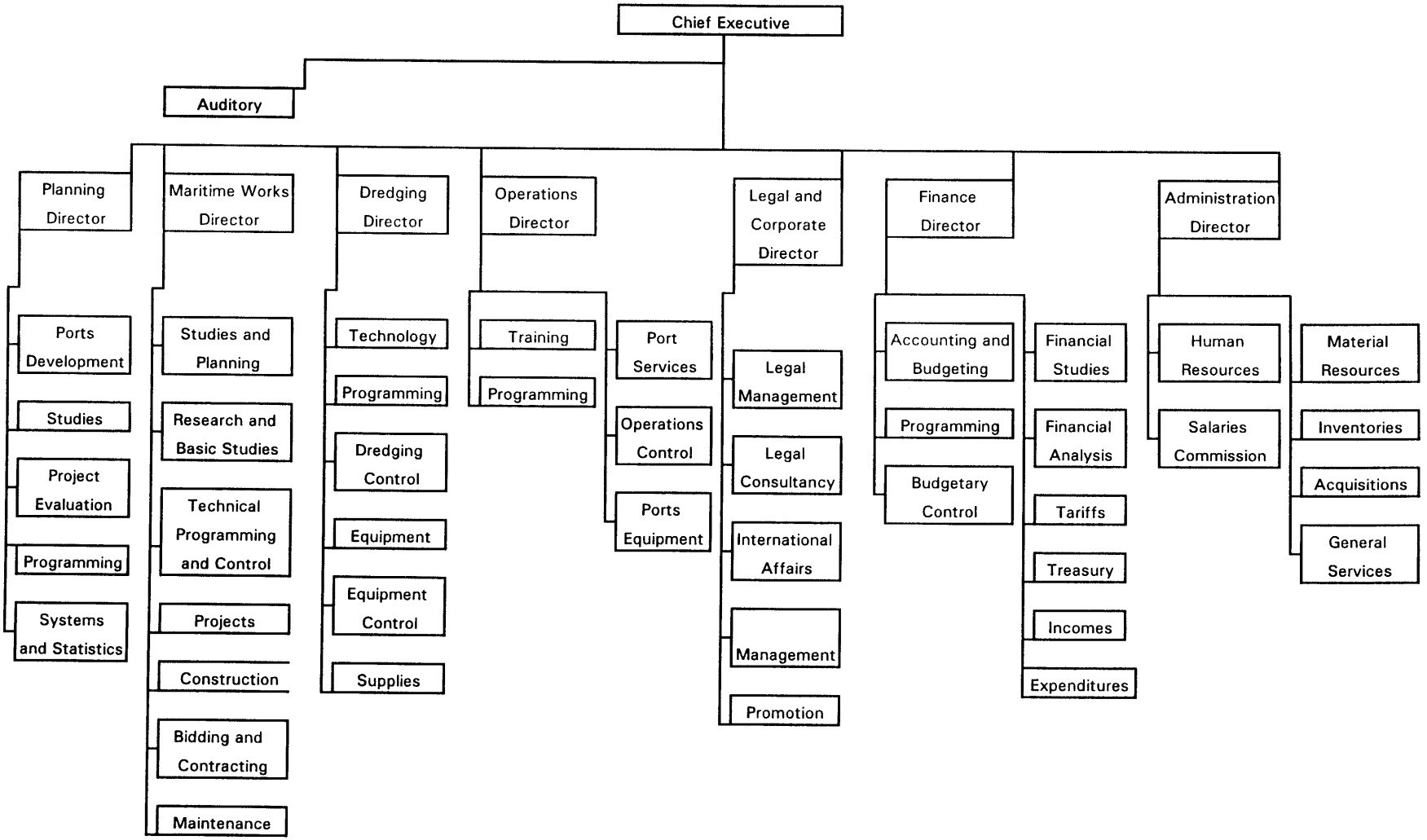


Figure 2.2

Organizational Structure of Puertos Mexicanos



2.3 COMPARISON WITH THE ADMINISTRATIVE ORGANIZATION OF THE U.S. PORTS[15]

The U.S. ports suffered a transition from private to public enterprises. The system in the U.S. has been looked as essentially national[16], playing a strategic position in national defense. Some issues such as monopolic practices, railroad's divided interest in serving competing ports, the need to promote new trade and a lack of coordinated port development, caused social dissatisfaction. The latter drove the shift towards public administration. The goal was to ensure free and equitable access to all waterfront users. The transition to public control resulted in the creation of numerous port authorities. Most of these agencies have independent authority and their actions are not controlled by external entities. This has stimulated effective management of ports out of large legislative and regulatory bureaucratic machines. Then, the authorities have been more capable to adapt themselves to changes of maritime technology and trade. Contradictory relationships with other public agencies have been minimized. The incentives for innovation have been preserved and so technically competent staff. The ports authorities perform their business plans without constant involvement or constant supervision from the central government. However, the U.S. ports experience increasing problems in financing operations. Ports are currently planning expansions without having the financial ability to undertake the projects, increasing subsidization needs. The lack of national port policy does not allow accurate identification of needed infrastructure expansion, and local needs are being prioritized over national interests. Furthermore, environmental restrictions and dredging bureaucratization and

[15]See M. Ircha: "U.S. Ports, Evolution and Structure", Maritime Policy and Management, Vol 22 No. 4, 1995; pp. 80-93

[16] Personal interview, Dr. Ernst Frankel, MIT.

increasing regulatory predisposition are causing delays to port development and management programs.

2.4 CURRENT STATUS OF THE INFRASTRUCTURE AND CARGO MOVEMENT IN THE MEXICAN PORT SYSTEM[17]

The system is integrated by ports and maritime works as follows:

- 22 ports of commercial importance, managed by Puertos Mexicanos. These ports handled 29 million of tons in 1993. Four ports are considered to have national importance: Manzanillo, Lazaro Cardenas, Veracruz and Altamira. The rest have regional importance
- 18 oil specialized terminals, managed by Petroleos Mexicanos, which together handled 121 million of tons in 1993
- 20 marinas and touristic port facilities
- 34 small fishing ports, managed and operated at local level
- Several maritime facilities operated by companies with unique expertise in handling aggregates and mineral products in the national industry

Although the 94 ports have docking facilities, the core of the system is considered to be integrated by 73 ports, with a total dock length of 110 km. Of this length, 45% is located on the

[17] The infromation related to this section was compiled from the following references: Puertos Mexicanos, Catastro portuario, Mexico 1991; SCT. "Programa Nacional de Modernizacion de la Infraestructura del Transporte", Mexico 1992, pp. 42-46; Puertos Mexicanos, "Oportunidades de Inversion en la privatizacion de los puertos Mexicanos." Puertos Mexicanos, 1993, pp. 2-6; SCT "Oportunidades de Inversion en Infraestructura Basica en Mexico" SCT 1993, pp. 5-20.

Pacific coast and 55% belongs to Gulf and Caribbean ports. The system also counts with 2.6 million of square meters of cargo storage facilities and 113000 meters of maritime protection works.

In 1993 the system moved approximately a total volume of 180 million of tons, 73% was international traffic and 27% was cabotage traffic. Of the total volume, 67% corresponded to the oil and oil derived products handled by Petroleos Mexicanos, and 17% to mineral products, mainly limestone aggregates and other non processed minerals moved by private companies at their own terminals. The 22 commercial ports dependent on Puertos Mexicanos gathered the remaining 16%. This percentage, which accounted 29 millions of tons was integrated by agricultural products, fluids, bulk cargo and containerized cargo. Figure 2.3 presents the percentages by kind of cargo handled by the system in 1993 (Source [1]).

Geographic location of the port system is shown in figure 2.4. The Mexican port activity is heavily concentrated in the 4 most important ports, Manzanillo and Lazaro Cardenas on the Pacific shore, and Altamira and Veracruz on the Gulf coast. They moved together more than the 68% of the volume traded by the 22 commercial ports (see figure 2.5, source [1]). This is a natural outcome because of their close location to the main urban centers and industrial points of the country. The region of influence of those 4 ports cover 55% of the national population and 80% of the industrial activity of the country. In addition they have a superior level of infrastructure and high relative productivity compared to other national ports.

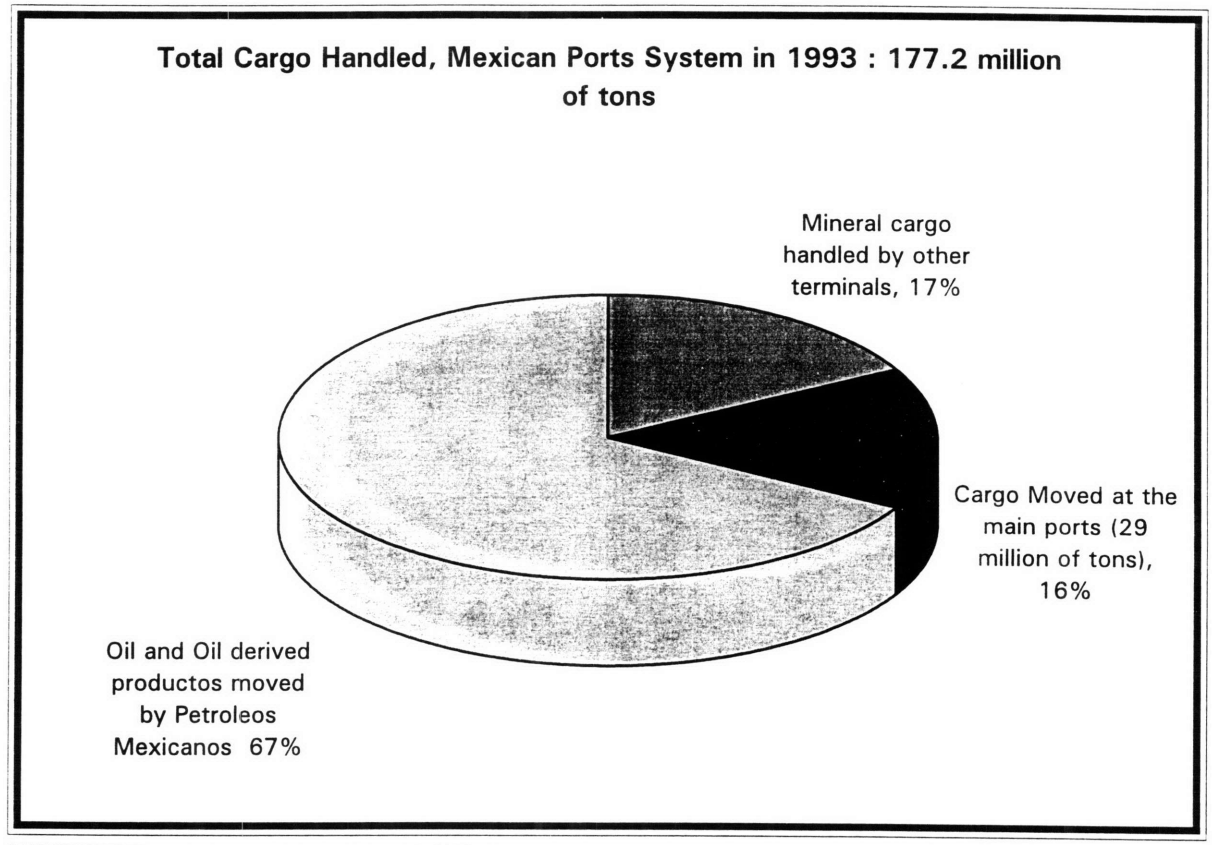
Regarding the evolution of the types of cargo handled, the main growth tendencies are registered in the movement of containers. Volume was doubled from 1989 to 1993, with an annual growth of 21%. However, the movement of containers just reached 470000 TEU's (Twenty feet equivalent unit, twenty feet container), a figure that is very low and not representative of the level of industrialization of the country. I state this considering the strong road trade between the United states and Mexico. Figure 2.6 shows the evolution of container traffic in Mexico (Source [1]). Conditions are different in the cruise market. Currently, Mexico has the 2nd world position of received passengers, only below the combined totals of the Caribbean islands ports.

According to the SCT, the modernization and expansion of the port system requires in the short term an investment of approximately 770 million of dollars, to be completed before the year 2000. A high proportion of this figure will be concentrated on the ports of Manzanillo, Altamira, Veracruz and Lazaro Cardenas, which will require 560 million of dollars[18]. Other 5 ports of relevance, Puerto Madero, Cozumel, Progreso, Ensenada and Topolobampo require investments worth at least 210 million. These investments are to be directed to three specific kinds of projects:

- Construction and upgrading of basic port infrastructure
- Projects of reconstruction of major specialized terminals and storing facilities
- Construction and improvement of port utilities

[18] SCT. "Programa Nacional de Modernizacion de la Infraestructura del Transporte", Mexico 1992, p. 44

Figure 2.3 CARGO HANDLED BY THE MEXICAN PORT SYSTEM



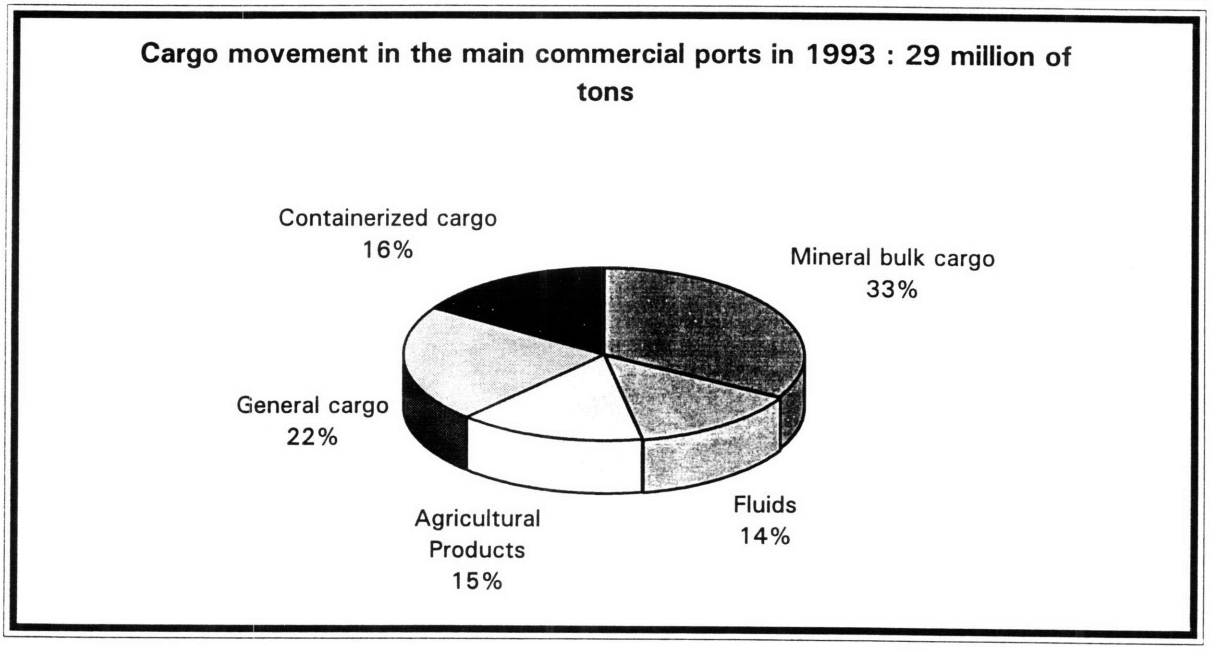
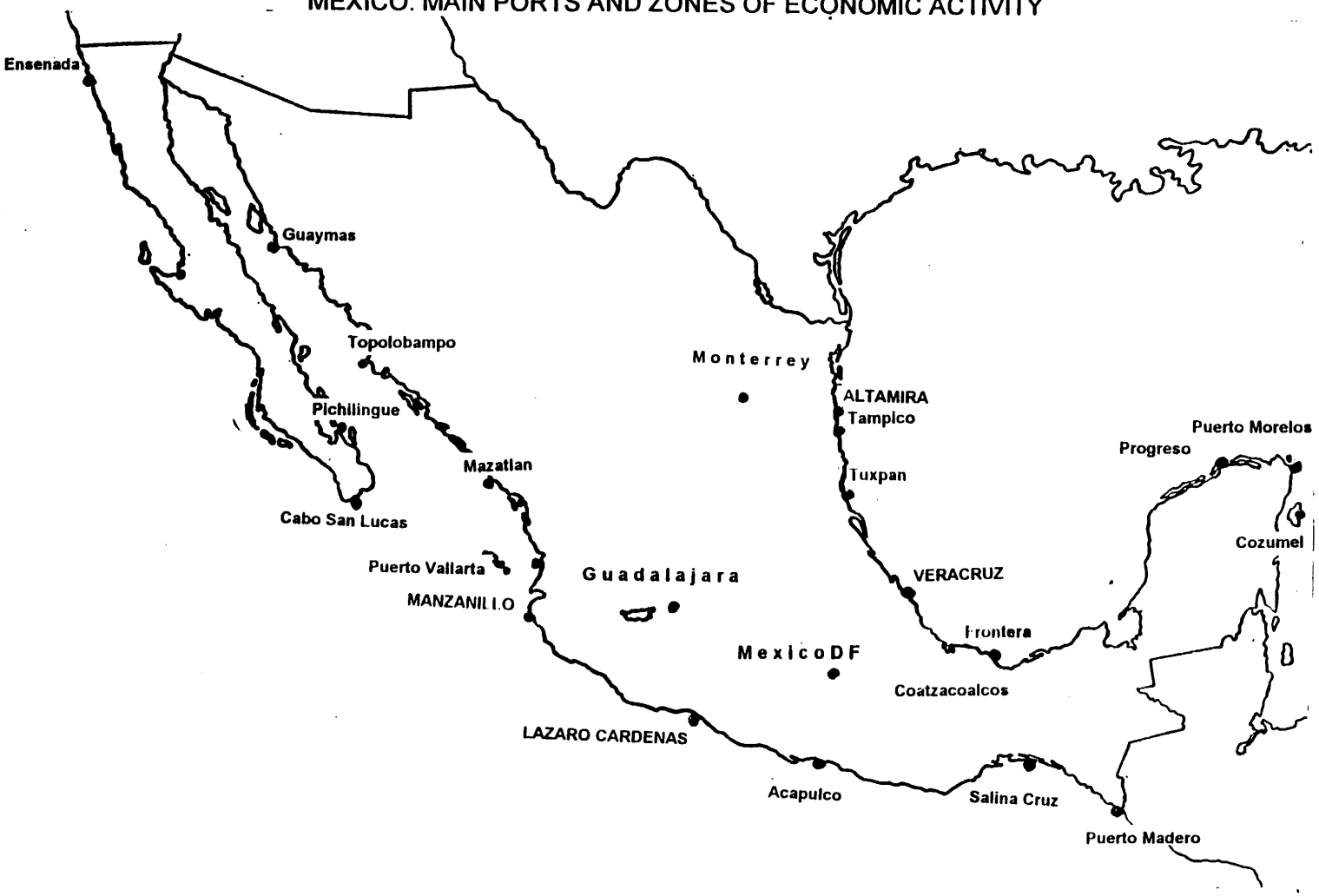


FIGURE 2.4 MEXICO: MAIN PORTS AND ZONES OF ECONOMIC ACTIVITY



Dredging and maritime protection are required at the ports of Ensenada, Cabo San Lucas, Topolobampo, Salina Cruz, Altamira, Tampico, Tuxpan and Frontera. Other investments are required by the system for infrastructure maintenance and failure prevention, such as the rehabilitation of facilities at the ports of Guaymas, Mazatlan, Salina Cruz, Tuxpan and Coatzacoalcos. The characteristics of the system generate important opportunities for maintenance and development of maritime infrastructure in the country. The high concentration of port activities that exist in Mexico represents in the short term an opportunity for concentrating efforts and upgrading the infrastructure and services of the 4 main ports towards international standards.

Figure 2.5 Cargo movement in the main commercial ports in 1993 : 29 million of tons

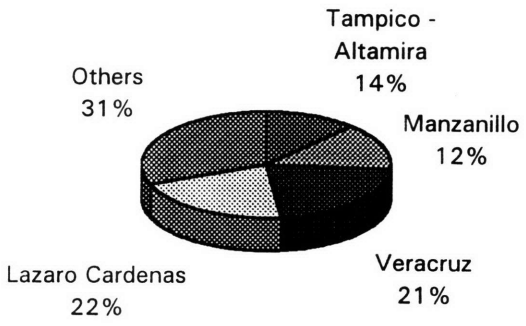
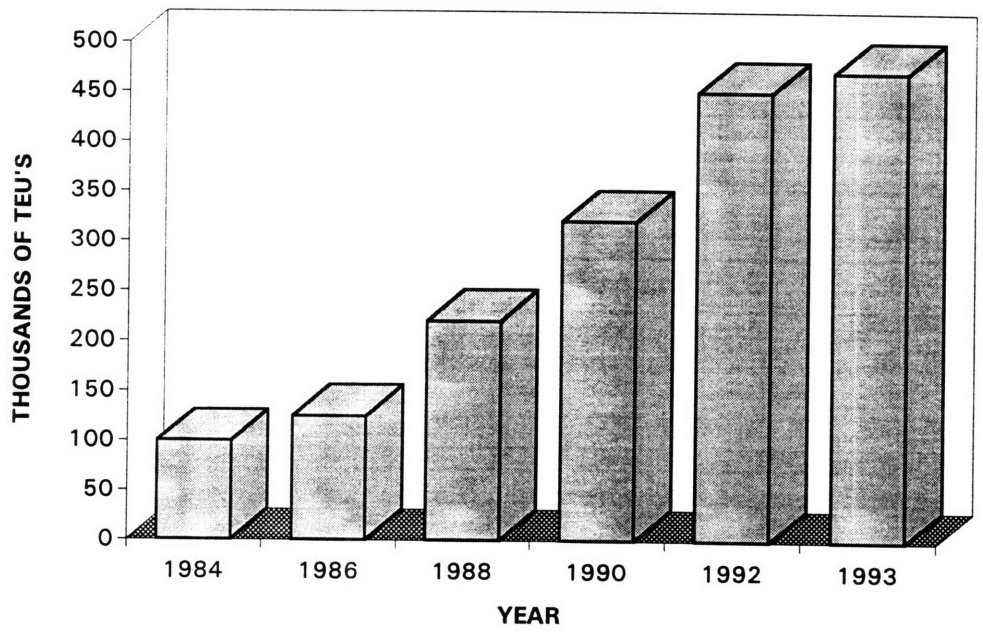


Figure 2.6 MEXICO: CONTAINERS TRAFFIC EVOLUTION



CHAPTER 3 THE MEXICAN PORT PRIVATIZATION PROGRAM

3.1 LIBERALIZATION AND PRIVATIZATION OF PORT SERVICES

3.1.1 WORLD TRENDS

Ports that have not recently been upgraded and modified are suffering under the impact of technological developments in ocean and inland transportation: bigger ships, evolution of cargo handling methods, operational and transport modal integration, and a decreasing control of the public sector over maritime infrastructure services worldwide[19]. Ports will play an increasing role as links among multimodal transport services. New port management systems are being developed. Economies of scale in shipping are acquiring strong proportions[20]. Container and connection inland depots are in use now. Information technology and communications systems are changing quickly. More specialized cargo handling equipment is constantly being developed. These advances in ports and shipping have caused these activities to be so capital intensive that consolidation of operations and management is needed to perform rapid changes. These conditions require increased ability to direct large financial resources in the short term, something that private entities rather than governments can achieve[21]. For world port systems, 1985 marks the startup of privatization[22]. Some cases have been successful experiences, all participants received the expected benefits. In other cases, the results have been mixed, strongly dependent on the way liberalization and privatization schemes were implemented. In those

[19] Frankel, Ernst, "Debt equity conversion and port privatization" Maritime Policy and Management, Vol. 19 No. 3 1992; p 201

[20] Comtois, Claude "The evolution of Containerization in East Asia" Maritime Policy and Management Vol. 21 No. 3 1994; pp. 195-205

[21] Personal Interview, Dr. Ernst Frankel, MIT

[22] B.J. Thomas "Privatization of the U.K. Seaports" Maritime Policy and Management, Vol. 21 No. 2 1994, pp. 135-148

instances, privatization was used for transferring ownership or liabilities, but not control. Ports were kept under strict regulation and operational constraints. Speaking worldwide, the level of privatization of ports is still behind that of other sectors of transportation which in turn lags behind privatization in other economic sectors worldwide and particularly in developing countries[23]. Governments are understanding that this must change because national port effectiveness determines competitiveness in international trade. Currently, ports are one of the most capital intensive sectors of the transport industry and governments can not afford to aditionally burden their budgets with these enormous investments. There is a need to accelerate privatization and liberalization of ports, particularly in developing countries, if they are to improve their rates of development and a more equitable distribution of growth.

3.1.2 PRIVATIZATION OF PORTS: CONTEXT AND SCALE

The methods of equity or assets transfer must be carefully evaluated during the planning stage of port privatization, otherwise irreversible disadvantages will arise[24]. In the same way, privatization of maritime infrastructure involves long term commitments which must be considered when determining the possible extent of privatization. Ports have local and national economic and political impacts. The transfer complexity of port infrastructure and services is high. The driving forces of privatization of port systems are to reduce government size, improve productivity and eliminate subsidies. Effective privatization has to be coordinated with greater

[23] Personal Interview, Dr. Ernst Frankel, MIT
[24] Vuylsteke, Charles "Techniques of Privatization of State Owned Enterprises" World Bank Publications, 1988; pp. 109-116

liberalization in terms of government deregulation and control retreat.[25] When a government decides to implement a port privatization program, it first has to evaluate its objectives and needs in order to make privatization attractive, meaningful and equitable for itself, society and the private investor. The critical issue is to effectively match the government objectives with the national maritime concerns. Political influences and interest group policies, such as granting excessive privileges to labor unions should be avoided to the greatest extent[26]. They are undesirable as they weaken momentum of change. Equity impacts on the different sectors can raise questions on how much to privatize, which port business units can be privatized, to what extent this is possible, and how this should be done.

In addition, careful assessment of the price to be paid for tangible and intangible assets, such as potential strategic value of the port, is necessary. The fairness of the price will be heavily dependent on the conditions of the macroeconomic environment. If a recession is being experienced, then cost reimbursement is seldom achievable, because undervaluation is practiced in order to attract investors under risky conditions. Undervaluation is also likely to occur when the government is leaving the port with liabilities. This is often the case of debt/equity swaps in port privatization, where total equity is often transferred for payment of the debt, which may be a small fraction of the value of the equity of assets[27]. Effects on employment and related costs of workforce rationalization should also be measured, as state owned ports tend to be overmanned.

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[25] Ian Thynne - Mohamed Ariff "Privatization: Singapore's experience in perspective" Longman, 1989; p. 55

[26] Vuylsteke, Charles "Techniques of Privatization of State Owned Enterprises" World Bank Publications, 1988; pp. 69-70

[27] Frankel, Ernst "Debt Equity Conversion and Port Privatization" Maritime Policy and Management, Vol. 19 No. 3 1992; pp. 201-209

Ports are not labor intensive but labor extensive. Practically unmanned ports are a reality today in South Asia and the Netherlands[28].

Ports are regulated and controlled in several ways:

- Economic regulation: tariffs and charges for services, fees on ships and cargo traffic, and duties
- Operational regulation: service frequency and methods, employment and work rules, safety, environmental impact, routing and scheduling, inspection and monitoring; and
- Management control including ownership.

While these measures can play a role in worker and environmental safety assurance, most economic and management controls affect operational decisions and are a major cause for low levels of productivity, efficiency, service quality and market responsiveness. Port privatization preceded by liberalization ensures that new owners will have sufficient freedom to innovate and compete effectively[29]. Privatization should only be attempted if liberalization permits conversion of port services into competitive enterprises. Level of Ownership issues have an extremely important role. The levels of effort and skills employed by the new management have a direct relationship to the degree of ownership.

A difficult issue is the financing of port privatization. Ports have a well defined physical infrastructure, but their outputs and boundaries among services and markets are more difficult to

[28] Cargo Systems journal, December 1995; "Automation"
[29] Personal Interview, Dr. Ernst Frankel, MIT

define[30]. Special attention must be given to the valuation of risks, opportunities and threats. If there exist debts or claims against the port, the complexity increases. The existence and access to capital markets, equity swaps and other methods of financing also affect the cost of privatization financing.

In summary, to ready a public port for privatizing requires[31]:

- An enterprise analysis which includes status and market evaluation
- Study of the legal requirements and conversion to the most effective legal form. This is strongly linked to modifications of the legal framework
- Financial restructuring
- Operational and managerial transformation
- Methods of transfer of personnel and workforce rationalization prearrangements
- Market reevaluation
- Debt consolidation; and
- Reassessment of financial conditions and records of performance

However, deferring privatization of non profitable ports can lead to higher costs by keeping them. Pre-privatization restructuring may make part or all of the port an attractive investment. To consider all these issues carefully will increase the possibilities for successful program implementation.

[30]Vuylsteke, Charles "Techniques of Privatization of State Owned Enterprises" World Bank Publications, 1988; p 67

[31] Based on : Vuylsteke, Charles "Techniques of Privatization of State Owned Enterprises" World Bank Publications, 1988; pp. 94-108

3.2 PORT PRIVATIZATION PROGRAM IN MEXICO: IMPLEMENTATION

3.2.1 THE NEW INSTITUTIONAL ORGANIZATION AND THE API CONCEPT

Until the year of 1995, Puertos Mexicanos was the federal agency in charge of port administration, infrastructure operation and construction, dredging, and maritime signalization. Puertos Mexicanos was the provider of the full range of port services[32]. In 1996, each one of the main ports will have its individual administrative agency. Now, the APIs, or Administraciones Portuarias Integrales are constituted as corporate entities, and will assume the responsibility for the administration, planning, port promotion and port infrastructure development, within a framework of managerial and operational independence[33]. The creation of these agencies is the backbone of the new port law and the entire privatization program. It is important to note that the existing fixed infrastructure, ground and waterfront, which constitute each port will remain as federal property. Their use, management, operation and construction have been transferred to the APIs under the agreement called "Partial Concession of Rights". The APIs are to operate the terminals and facilities by contracting third private sector entities under competitive bidding, according to the port law[34]. Concessions will include financing, construction and operation of terminals when new facilities are required. In this way, the private sector will be the direct operator of terminals and facilities by means of concessions derived from the API's Partial concession of rights, which is awarded by the federal government. These APIs' new endowments are established in the APIs concession title and in the port law. The government body of each API is the board of directors. In this first stage of corporatization, the board is overseen by the

[32] SCT, Puertos Mexicanos: Manual de Organizacion: Antecedentes, Mexico 1992, p. 9-29
[33] H. Congreso de la Union, "Ley de Puertos" 1993, Articulos 38-43
[34] H. Congreso de la Union, "Ley de Puertos" 1993, Articulos 20-37

Ministry of Transportation, and has members from the state and local governments, financial institutions and the local private sector[35]. The organizational structure of the APIs, is shown in figure 3.1 (source [36]) will change as the privatization process advances and the private sector takes full control over operation of infrastructure and provision of services, as it is discussed in the following section.

A federal port agency, the Coordinacion general de Puertos (CGP) is to assume the role of the government in port activity[37], and it is dependent on the SCT (Ministry of Transportation). The CGP is to Lead, plan and direct the implementation of port policies, direct project general infrastructure development, and design the national competitiveness strategy by coordinating the different APIs in an interactive context. Furthermore, security for the participants in the projects will be granted through the actions of this agency. The CGP will also deal with international issues and consolidate port information in Mexico.

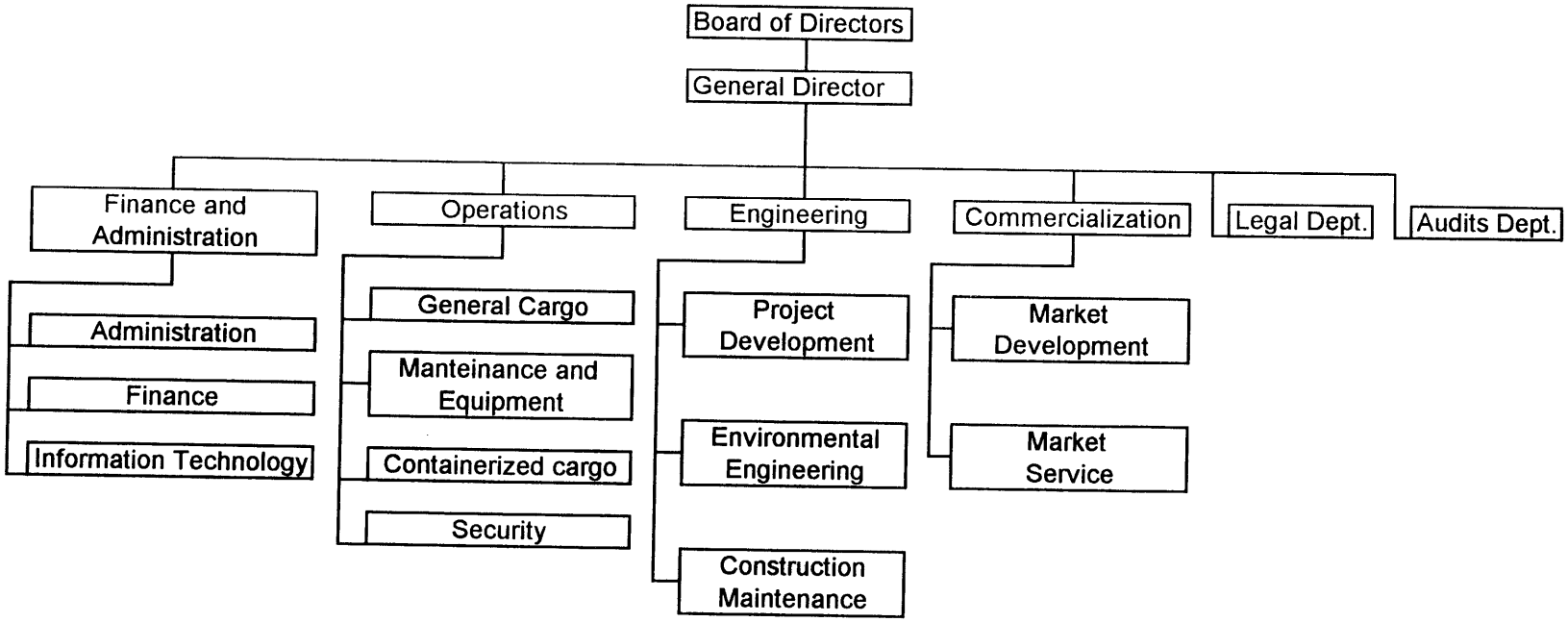
Regarding port strategic development, each port will have a Master Infrastructure and Coastal Development Program to be elaborated every five years by its APIs and approved by the port federal agency and the ministry of transportation. It has to identify the uses and ways of operation of the different port zones, beginning by assessing the current port conditions and defining the zones to be concessioned. The program includes[38]:

[35] Puertos Mexicanos "Oportunidades de Inversion en la Privatizacion de los Puertos Mexicanos" Puertos Mexicanos 1993; p. 15
[36] ICA "Privatizacion de Puertos", ICA 1995
[37] H. Congreso de la Union, "Ley de Puertos" 1993, Articulo 16

[38] Administracion Portuaria Integral de Veracruz "Programa Maestro de Desarrollo", APIVER 1995

FIGURE 3.1:

ADMINISTRACION PORTUARIA INTEGRAL (API) ORGANIZATION CHART



- Port growth and development projections for the future and construction
- Upgrading of facilities
- Equipment acquisition
- Maintenance requirements to be undertaken during the period; and
- Productivity minimum goals

The Master Development Program aims to ensure efficient exploitation of the port and its rational future development. In this way, the Master Program of each port intends to match the national strategy of the federal government, bringing into focus individual concerns towards the national benefit.

The APIs must fulfill the CGP's and SCT requirements on infrastructure usage, investment plans and other measures aimed at efficient port exploitation when designing the Master development plan. However, according to the port law, the APIs have the right to propose modifications to the Port Master Program and negotiate their approval with the Federal Government.

Enforcement at the port will be a task of the port navy office[39]. Functions such as customs and immigration will remain under federal control. In order to provide an organizational liaison device between these federal agencies, the APIs and the private operators, an Operations Committee will be created at each port. This mechanism will facilitate relationships among government agencies, APIs, private concessionaires and users. The APIs will formulate the rules

[39] H. Congreso de la Union, "Ley de Puertos" 1993, Articulo 17

for its port operation which are to be submitted to each Operations Committee for approval. This committee can make recommendations on several port issues, such as operations and port scheduling, modifications to the Master Development Program, assigning wharving positions, tariff evaluation and client services[40].

In the same way, a Consulting commission at each port will make recommendations related to port promotion and rational growth, and will constantly assess port impacts on the economy of the zone. To deal with urban planning and environmental concerns, which could affect port functions are also its undertakings[41]. figure 3.2 shows the new model of institutional organization (source [42]).

3.2.2 PORT ADMINISTRATION PRIVATIZATION SCHEME

The creation of APIs in each port as corporate entities will subject port administration and management to commercial laws. However, corporatized APIs is just the first step in running ports under business principles. Port administration could also be an opportunity of private investment within the new port organizational structure. As previously mentioned, the APIs in the beginning will be governed by a board of directors chaired by a person appointed by the Ministry of Transportation. In addition to this chair, representatives from the state and local governments, financial institutions and private sector will participate. In the initial phase, the

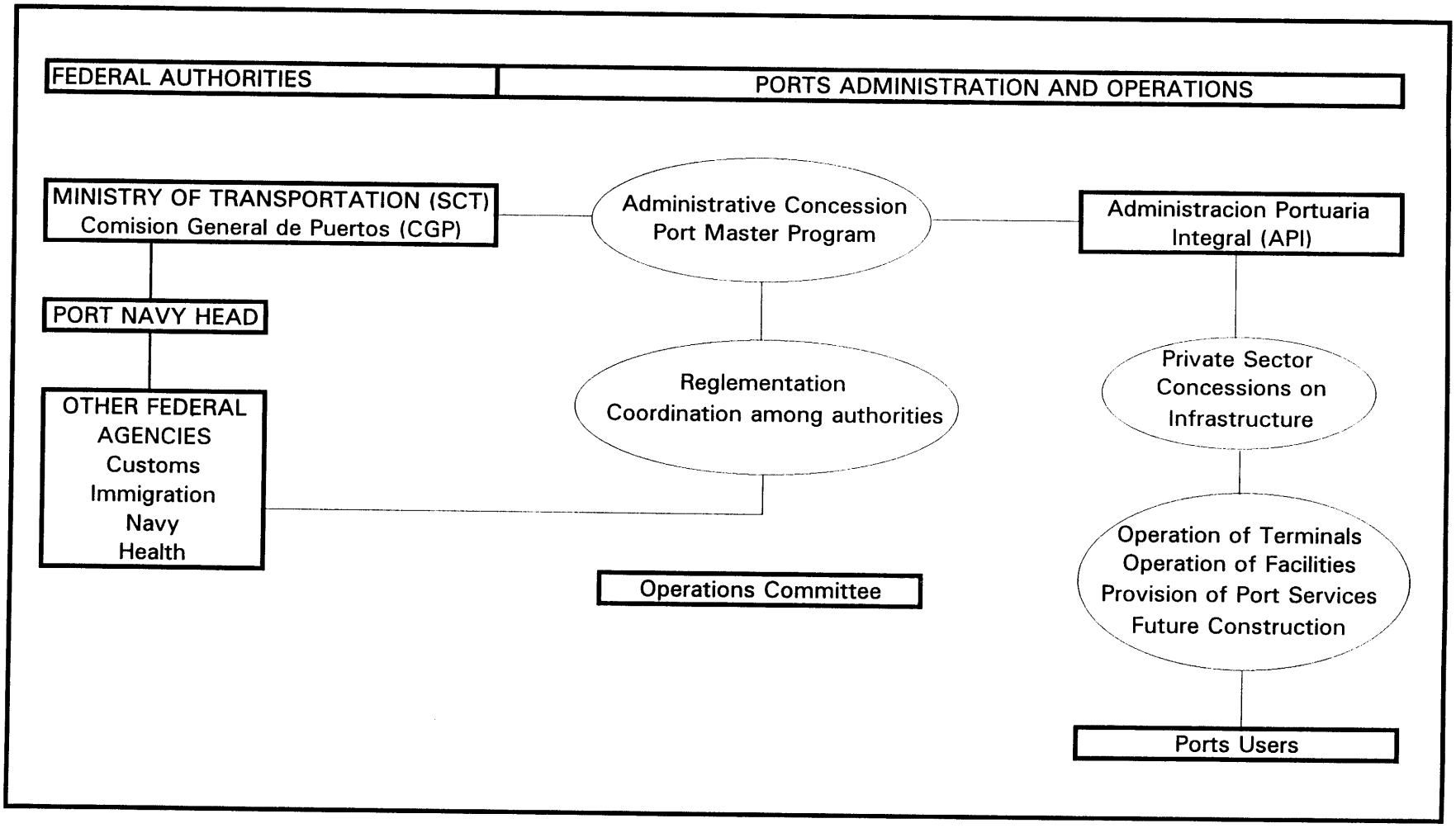
[40] Puertos Mexicanos "Oportunidades de Inversion en la Privatizacion de los Puertos Mexicanos" Puertos Mexicanos 1993; p. 13

[41] Puertos Mexicanos "Oportunidades de Inversion en la Privatizacion de los Puertos Mexicanos" Puertos Mexicanos 1993; p. 14

[42] Comercio Exterior, Abril 1995; p. 66

FIGURE 3.2

MEXICO: PORT SYSTEM'S NEW MODEL OF INSTITUTIONAL ORGANIZATION



share capital of the APIs will be held by the federal government. In the second phase, once the APIS are financially consolidated, shares will be sold under competitive public offering. It is important to note that even in the first phase, the APIs will remain independent from the federal government in all aspects concerning port administration and management as stated in the port law. Therefore, the private sector will have progressive participation in port administration as shareholders of the API corporations. Figure 3.3 illustrates APIs constitution (Source [43]). During the selling process, the APIs will have to consider that transactions will raise substantial amounts of revenues. The possible substantial expenses involved in necessary fees and commissions to investment banking firms and other intermediaries must be assessed. The capital structure of the APIs will be variable. Regarding participation of foreign investment (Table 3.1), the API shares are marketed internationally. The port law allows only a 49% of foreign participation on API shares. Conversely, Mexican private capital participation is open to 100%[44]. The possibilities for foreign investment are different in provision of services and operation of infrastructure, where foreign investors can hold 100% of the capital. However, in doing so, they need to establish an enterprise entity recognized by Mexican laws. An advantage in the privatization scheme of port administration in Mexico, is that widespread shareholding is permitted, thus allowing the broader resources of the general investors to be well targeted with openness and transparency. For these reasons, the sales of APIs' shares seem politically suitable and will enhance market confidence, because the private sector will acquire the capital of financially self sufficient agencies.

[43] Puertos Mexicanos "Oportunidades de Inversion en la Privatizacion de los Puertos Mexicanos" Puertos Mexicanos 1993; p. 16

[44] SCT "Oportunidades de Inversion en Infraestructura Basica en Mexico" SCT 1993, p. 11.

FIGURE 3.3: CONSTITUTION OF THE APIS

CORPORATIZATION - PRIVATIZATION

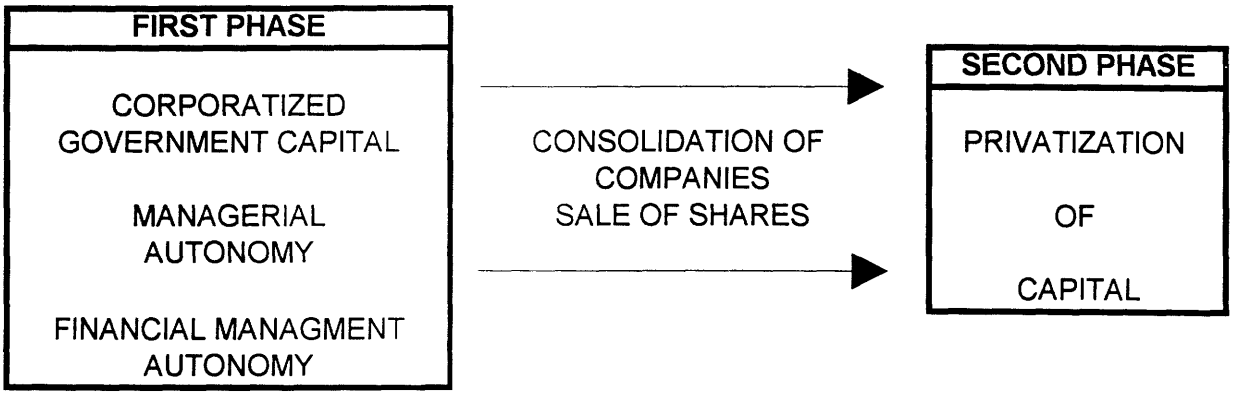


TABLE 3.1

MEXICO: PRIVATIZATION OF PORTS

FOREIGN INVESTMENT LEVELS ALLOWED	
APIs	49%
TERMINALS	100%
FACILITIES	100%
SERVICES	100%

3.2.3 PRIVATIZATION OF PORT SERVICES

Port infrastructure comprises all fixed facilities and structures destined to port services provision. In Mexico, it is considered federal property[45]. Existing infrastructure can be leased and new constructed infrastructure owned and then transferred. Concession of port services offer wide range of investment opportunities with high potential of profitability, whereas market forces and competititon will improve their production and delivery. According to the new port law, concessions on services will only be awarded to companies created under Mexican laws, and by public international bidding. These companies can be backed by 100% foreign investment. Competitive bidding for the right of supplying the market can be open even by request of interested investors, according to the business units in which they plan to compete (see figure 3.4, source [47]). Therefore, the private sector through the APIs will have the opportunity and incentive to propose port infrastructure development according to their expertise. The federal government's CGP will in turn assess the extent to which the private propositions fit with the national strategy.

The evaluation criteria for awarding concessions will take into account both, financial and technical proposals[46]. The law states that the APIs' will provide port services through third private parties, using exisiting infrastructure. Then, the APIs will award concessions on services

[45] H. Congreso de la Union, "Ley de Puertos" 1993, Articulo 15

[46] API Veracruz, API Altamira, API Lazaro Cardenas, API Manzanillo, "Concurso Internacional para la concesion de terminales especializadas de contenedores y usos multiples", Febrero 1995

FIGURE 3.4 UNBUNDLING OF PORT BUSINESS UNITS

PORT ADMINISTRATION: (APIS)						
Investment						
VESSEL RECEPTION	**CARGO LOADING/UNLOADING (SPECIALIZED TERMINALS)**	**MARINAS**	**WAREHOUSING**	**VESSEL SERVICES**	**INTERMODAL LINKAGES**	**LOGISTICS**
			Activities			
Pilotage Towage Wharfage Docking	Cargo movement O/D vessel Containerized cargo Bulk cargo Fluids weighting	Provision of Services to Ships	Storage	General Services Water Fuel Energy Cleansing Repair	Rail Road	Information and Control Communications International trade Information
			Participation			
Operation Direct Investmen	Operation Direct investment Technical Services Consultancy	Operation Direct Investment Technical Service	Operation Direct Investment Technical Services	Operation Direct investment Technical Services Consultancy	Operation Direct investment Technical Service Consultancy	Operation Direct investment Technical Services Consultancy

to the private sector for their provision by an agreed period and revenue collection. Evaluation criteria is structured as follows:

- Net present value of the financial poposal of the private firm, based on a defined time of concession
- Sustained technical, administrative and operational capacity
- Business and investment plans
- Future development program

During a phase of growth consolidation of Mexican ports, existing infrastructure will be concessioned through leasing and operation and management contracts. The key feature of the concessions is that private opertors will assume all commercial, operational and investment risks[47]. The concessionarie will suffer direct financial impacts if it fails to exploit port terminals in an efficient manner and to ensure effective management. What is intended in this phase, is to reach full capcity on the use of existing facilities for provision of services.

The financial aspects of the transference of activities to private investors are discussed, since construction of common port infrastructure is a task of the APIs, and this mainly relies on the revenues raised form concessionaires payment. The APIs sources of funds will be[48]:

- Concession upfront payment.

[47] ICA "Privatizacion de Puertos", ICA 1995

[48] Administracion Portuaria Integral de Veracruz "Programa Maestro de Desarrollo", APIVER 1995

- Fixed revenue collected from the Operation and Management Concessions.
- Variable revenues, based on sharing percentages on outstanding concessionaires earnings.
- Payments collected from sold equipment.
- Tariffs for use of port infrastructure.
- Government loans when required.

Construction of Infrastructure carried out by operators or concessionaires will be allowed and will be considered their property during the concession period if it is developed in small scale. Afterwards, all new fixed facilities will be transferred without cost to the federal government and concessionned again through the APIs, to the same or new investors.

3.2.4 THE LEGAL AND REGULATORY FRAMEWORK. COMPETITION POLICY

To ensure healthy development of this privatization process and effective roles redefinition, a sound port law was needed. By means of establishing mechanisms that enable itself to be strictly respected, the port law is to provide an actualized and sound legal framework according to the development of the Mexican ports, assuring security for the private investor. The new Mexican port law, issued in November of 1994, considers these aspects by recognizing total decentralization of the port administration, aiming financial, managerial and operational independence. The law also includes regulatory modifications that will support transparency on port operations, opening to foreign investment, a competitive environment and the incorporation

of the private sector in APIs ports administration. Figure 3.5 (Source [49]) shows the legal reform in a schematic way.

However, the Mexican port law allows the possible implementation of tariff regulation and entry if the National Competitiveness Commission considers that to be necessary[50]. The aim is to avoid monopolic practices. At the least, Concessionaires are permitted to request negotiation. The National Commission of Competitiveness will turn these decisions to the APIs. Regarding facilities constructed by concessionaires, the port law considers them as their property during the time of concession. At the end of the concession period, constructed infrastructure will be transferred again to public control and the API will channelize their use again.

Adequate regulation is an indispensable component of effective competition policy. As it is the Mexican port case, liberalization has resulted in elimination of statutory barriers to competition. Clearly, the impact of competition policy and privatization on the efficiency of privatized ports as a highly contestable market, will depend upon how well the regulatory regime functions. Figure 3.6 illustrates the regulatory framework (Source [47]).

[49] SCT "Oportunidades de Inversion en Infraestructura Basica en Mexico" SCT 1993, p. 65

[50] H. Congreso de la Union, "Ley de Puertos" 1993, Articulo 60

FIGURE 3.5: SCHEMATIC VIEW OF THE PORT LAW REFORMS

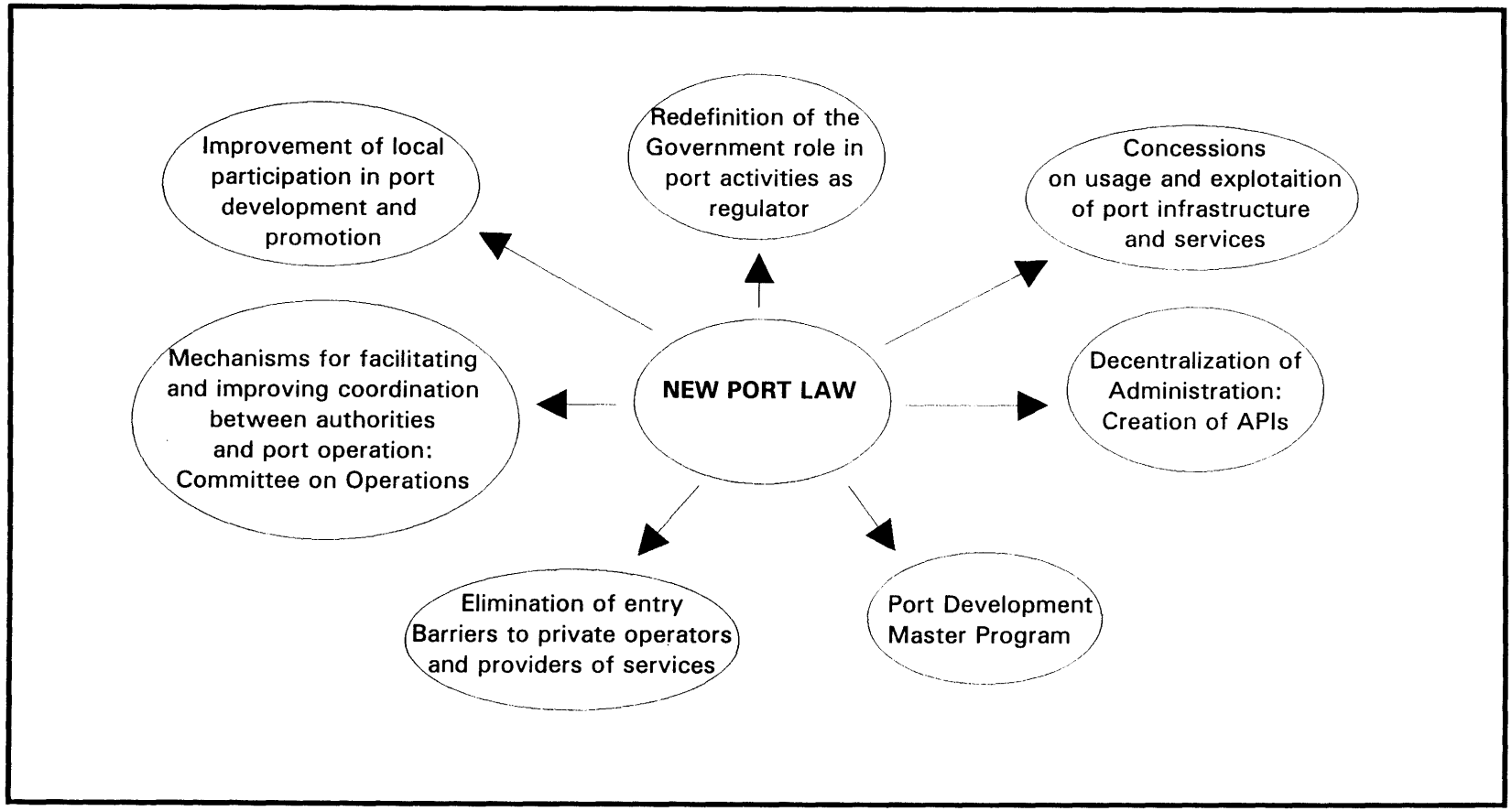


FIGURE 3.6: PORT SYSTEM NEW REGULATORY FRAMEWORK

BUSINESS UNIT	REGULATORY DOCUMENT	PRIVATE INVESTMENT FOREIGN AND NATIONAL	FOREIGN INVESTMENT LEVEL ALLOWED
PORT ADMINISTRATION	Port Law Law of foreign Investment		API participation 49% foreign investment API in turn awards concessions Construction Operation Exploitation of infrastructure Term of concession: 50 years
VESSEL RECEPTION	Port Law Law of foreign Investment		Corporations enacted under Mexican law: Transportation and Towage: 49% Foreign Investment 100% Foreign Investment with permission of Commission of foreign Investment Coastal Towage services: Foreign Investment not allowed
VESSEL SERVICES: NAVIGATION AID PILOTAGE, ANCHORAGE LIGHTERAGE	Port Law Law of foreign Investment		Corporations enacted under Mexican law: 49% Foreign Investment 100% Foreign Investment with permission of Commission of foreign Investment
VESSEL SERVICES: WATER COMMUNICATIONS ELECTRICITY	Port Law Law of foreign Investment		Corporations enacted under Mexican law: 100% Foreign Investment
CARGO **ALL KINDS**	Port Law Law of foreign Investment		Corporations enacted under Mexican law: 100% Foreign Investment
CONSTRUCTION	Port Law Law of foreign Investment		Corporations enacted under Mexican law: 100% Foreign Investment

Restrictions Exist to foreign investment

No restrictions to foreign investment

3.2.5 PORT PRIVATIZATION PROGRAM: THE BASIC OBJECTIVES

Privatization as an institutional change is to achieve indispensable objectives within a governmental system[51]. The Mexican government expects that port institutional change will support the modernization of the country, expand the national trade, and provide better employment opportunities for the Mexicans[52]. Port institutional changes can only achieve temporary solutions, given the challenging international environment of sea transportation. Although basic, the objectives of institutional change in Mexico are transcendent because they are to provide a sound base for the redevelopment of the port system: These objectives are:

- Management and control objectives:

Reduction of the administrative machinery by means of transferring infrastructure development responsibilities out of the public sector, with the end objective of relieving the government budget of such financial burden as subsidies and excessive indebtedness. Raising revenues for the government can be included in this class of objectives.

- Business Objectives:

Improvement of efficiency in enterprises which are in charge of infrastructure by means of using the potential of private promoters and developers. This is aimed to enhance competition, and to develop commercially oriented private enterprises and capital markets.

[51] Ian Thynne - Mohamed Ariff "Privatization: Singapore's experience in perspective" Longman, 1989; p . 10
[52] Puertos Mexicanos, "Oportunidades de Inversion en la privatizacion de los puertos Mexicanos" Puertos Mexicanos, 1993; p. 18

- Public Objectives

Wise implementation will result in a more efficient form of service delivery and consequently more opportunity for a community to be productive. As a result, the initiative of people, which has been hindered traditionally, will be progressively transformed[53].

The excessive participation of the Mexican government in sectors of the economy, seriously obstructed in the long term the initiative of people and damaged the competitiveness of production processes. The port industry was not an exception, thus affecting the national dynamic. The outcome was a public administrative apparatus without the capacity to face social national problems, foster productive investments or provide guidance to the economy. The justification scope for adopting institutional changes towards privatization in Mexico is broader than in other nations, due to the complexity of the problem. Its fulfillment or failure can cause stronger implications in the national welfare than in other countries. In order to support this statement, an international comparison is presented showing privatization targets in Singapore and the UK. Afterwards, the international comparison is made to port privatization programs in other countries.

[53]References to the topic can be found in: Vuylsteke, Charles "Techniques of Privatization of State Owned Enterprises" World Bank Publications, 1988; pp. 57-63 Ian Thynne - Mohamed Ariff "Privatization: Singapore's experience in perspective" Longman, 1989; pp. 11-14; World Development Report 1994: "Infrastructure for Development" Oxford University Press 1994; p. 2; Vickers and Yarrows "Privatization in Britain" Oxford University Press, 1988; pp. 212-213

3.3 INTERNATIONAL COMPARISONS

3.3.1 PRIVATIZATION OBJECTIVES IN SINGAPORE AND THE UK

3.3.1.1 SINGAPORE PRIVATIZATION PROGRAM[54]

In Singapore, during the 40 years before 1985, the government expanded its range of activities, so its public policies covered most economic components. Its organizational structure and productive processes became complex. In order to relate this issue to the significance of privatization, I would like to mention several points: Most of the socioeconomic development of Singapore had been undertaken by the government. Slow economic growth, massive unemployment and inadequate education demanded the intervention of the government in order to build an economic base, as also had done in Mexico. In the case of Singapore, the government was successful in entering areas normally reserved to the private sector. Its success was due to the business and commercial approaches adopted under the guidance of the Statutory Boards. So, in Singapore the concept of State Owned Enterprise was indeed applied.

As a result, the government assumed a strategic role in strengthening the domestic market forces and directing the international ones in a way that would benefit the national economic interest. In spite of the success of publicly based economic decisions, Singapore began to experiment with a privatization process strongly influenced by the world trends. Because Singapore was able to use market forces as means of carrying out its national strategies, it

[54] See Ian Thynne - Mohamed Ariff "Privatization: Singapore's experience in perspective" Longman, 1989

succeeded in consolidating competitiveness. When the economic situation in Singapore was evaluated by the Divesting Committee, it was said that business improvement did not need to be included in the main privatization objectives. Instead, this government appointed committee considered the following:

- To withdraw from commercial activities, which no longer needed to be undertaken by the public sector
- To reduce competition between the government and the private sector
- To strengthen the private sector in Singapore by allowing it to take the initiatives in the search and use of new investment opportunities.

One additional issue should be noted: Singapore's private sector complained about unfair competition and the need to develop its own creativity, no matter how well the SOEs were performing.

3.3.1.2 PRIVATIZATION OBJECTIVES IN THE UK PROGRAM[55]

On the contrary, the UK started its program as a result of suboptimal performance of the public industries and also intendung to reduce the size of the public sector. The power acquired by some groups such as the trade unions and the borrowing scale of the government needed to be reduced. Share ownership and distribution goals played a crucial role in shaping the program. The reasons stated for privatization were diverse, but I would like to focus on one issue. Profitability was not the objective of the government since most of the public companies were

[55] Analysis based on: Vickers and Yarrows "Privatization in Britain" Oxford University Press, 1988

profitable before privatization, but it was the potential to improve their performance. The first step was to improve the management of businesses. As in other countries, government intervention restricted the extent of commercial activities. The UK government was committed to create an enterprise culture, motivate managers to be responsible, accountable and more responsive to changes in the marketplace. Privatization also established a structure that strengthened the capital markets. In this way, the pressures that private investors imposed over management would improve efficiency. This was particularly relevant in sectors which were subject to intense competition like ports.

In conclusion, the implications of the success of privatization efforts in these countries were not as crucial as they than are now for Mexico. Singapore learned to use competition and to harness the market forces long before privatizing. The UK SOEs were not in a financially disastrous position. Its program has been successful and relatively smooth, ending in lessons that motivated other countries to do the same. The UK case showed the enormous potential of privatizing SOEs. In Mexico, infrastructure providers are now learning to be marketable, efficient and competitive. The learning process will not be easy, but the outcome will be decisive, as to the competitiveness of the Mexican Ports in the world economy.

3.3.2 INTERNATIONAL PORT PRIVATIZATION: COMPARISONS WITH THE CASE OF MEXICO

3.3.2.1 THE CHILEAN PORTS CASE[56]

The modifications performed in 1981 to the Chilean port agency (EMPORCHI), along with legal, and operational changes, established the basis for the actual Chilean port model. The performance level of Chilean ports compared to ports in Latin America, showed innefficiency in operations, characterized by cargo loading and unloading congestion, vessels time losses, cargo handling insecurity and institutional bureaucracy. The main problem of Chilean ports before the implementation of the changes, similar to Mexico, was concentration of port control in a single institutional entity. This model has been unable to respond to the needs of improvement of Latin American maritime activities.

The issues presented in Chile confirm the fact that a single port federal agency controlling all port activities can not gain operative efficiency and at the same time direct adequate level of attention to the concerns of each port. The same occured in Mexico. In Chile, liberalization of the economy through export pressures acted as mechanism that forced institutional changes, which in turn allowed investments to pervade the port system. Legal changes permited the establishment of competition for operating port terminals, through the administration of EMPORCHI as corporate entity. On the other hand, Mexico's different corporate entities have been created at each port to best pursue the local interest and promote coastal growth and industial development

[56] Comparison based on the information of : "Evolucion y Perspectivas en la Institucionalidad de los Puertos Chilenos" Empresa Portuaria de Chile, Noviembre 1994; pp. 11-16

transfer to each port' zone of influence. In Chile, competition for provision of services and the implementation of an effective tariff system permited infrastructure usage to be optimized. The Mexican case shares some characteristics with the Chilean program such as legal changes opening private foreign investment and creation of a new federal agency in charge of the implementation of regulation and macroeconomic policies for the port industry (Chilean National Port Authority). In addition, the Chilean program decentralized power through the creation of state and local authorities. These changes not only have given a solid base to the development of port industry in Chile but also increased expansion pressures over its system.

Chile has become conscious of the need of being adaptable to the changes in the international port environment. Its position has been to be ahead, planning upfront. The geographic characteristics of Chile have positioned the country as the main gate for the introduction of maritime cargo from the Pacific to South America. Therefore, the time permanenece of most of the cargo in the Chilean ports is minimal. Besides this, the sustained growth of the economy, as opposed to the case of Mexico, has prepared the ground for the Chilean ports to reach the competitiveness needed by the Pacific Rim Trade.

The results of port administrative and legal changes towards liberalization and allowance of private investment in Chile, has been impressive increments of cargo tonnage handled and full port international opening: Diversification of trade through port imporvement allowed Chile to fastly change its commercial profile. In 1991, Japan occupied for first time the position of main trade partner of Chile, instead of the United States. Trade with the other Southasian countries has

also increased. Mexico presents a strong need of trade diversification. The key issue in Chile has been the effective alignment of port private operators interests in benefit of the nation, through EMPORCHI administration, which will have the same importance in the Mexican case.

3.3.2.2 THE UNITED KINGDOM PORT PRIVATIZATION[57]

A similar privatization approach to the one that is carried out in Mexico was implemented in the UK. The transport sector was at the forefront of the privatization program and since 1979 the administration of ports suffered radical changes:

- Deregulation designed to remove the obstacles to market forces and trade actvities at the ports.
- Divestiture of the National Port Council in 1984
- Removal of investment and other statutory controls in 1984
- Modifications to the port labor law and removal to restrictive employement regulations in 1989

The former administrative structure was complicated since several companies provided services under port authority jurisdiction (British Waterways Board, British Railways board, British Transport Dock Board and local governments). Activities included maintenance, pilotage, towage, berthing and cargo handling operations. As opposed to the case of Mexico and Chile,

[57] See: B.J. Thomas "Privatization of the U.K. Seaports" Maritime Policy and Management, Vol. 21 No. 2 1994, pp. 135-148 and Vickers and Yarrow "Privatization in Britain" 1988 Oxford University Press, pp. 31-33

centralization did not exist. During the decade of 1970, ports in the UK presented severe financial problems due to excess capacity, increasing cost to replace capital assets and increasing labor costs and premature obsolescence. This was aggravated by the intense competition and declining level of demand in the late 70's. At the center of the problem was the lack of a national policy of operation and finance, lack of institutional arrangements to balance demand and supply and lack of power to order closure of obsolete facilities.

During 1980-1984 the shipping specialization and intermodal transportation growth put under severe pressure the UK ports. As a response, a market force scheme was adopted by means of state withdrawal of any port control and financial support for inefficent facilities. The British Port Transport Dock Board's (BPTDB) shares were progressively sold to the Public in 1983-1984. The BPTDB was reconstituted under the name of Associated British Ports (ABP). As in the Mexican case, this is corporatization followed by privatization. In the UK, the ports managed as individual entities and the existence of four controlling Boards allowed ports to compete among themselves. This did not occur in Mexico, so the creation of APIs at each port targets this objective. The ABP is controlled by Associated British Ports Holding which is dependent of a Secretary of the government. In 1991, the UK ports act enabled the transfer of statutory port undertakings to companies limited by shares. However, as in the case of the Mexican APIs, the government agency has no power to direct the management of ABP. The changes in the administrative structure of the UK seaports led to commercial operation of the system, labour flexibility, reduced manning levels, increased responsiveness to customer needs, further intensification of competition, and gains in market share and profitability. In the following 5

years these kinds of results in the Mexican port system will be perceived to the extent in which each one learned how to position itself competitively. World experience shows that privatization of strictly regulated port monopolies has often been more successful than the privatization of oligopolistic and unregulated port enterprises, because strategies can be better defined. This was the UK case. Domestic rivalry is an important fact for achieving competitive advantage[58], but the lesson of the UK must be remembered in Mexico. Domestic competition must always be directed to fullfilment of national objectives.

[58] Porter, Michael E. "The Competitive Advantage of Nations" The Free Press, 1990 p. 71

CHAPTER 4 PORT OF VERACRUZ: PRIVATIZATION OF THE SPECIALIZED CONTAINER TERMINAL

In order to go deeper in the study of the Mexican port privatization process, this chapter presents the transference to the private sector of the specialized container terminal (TEC: Terminal Especializada de Contenedores) at the port of Veracruz. This will permit better assessment of how the program elements have been implemented. The bidding process, contractual agreements, valuation of assets, financial aspects, risk assessment, and the of role of the Mexican constructors and their strategic joint venture partners are discussed.

4.1 THE PORT OF VERACRUZ

4.1.2 BRIEF INFRASTRUCTURE ASSESSMENT

This section describes the current and future planned physical environment in which the concessionaire of the TEC will operate, since the conditions of the TEC's surrounding operational environment, common port infrastructure, major works and intermodal linkages will be critical for success. To upgrade the port of Veracruz's utilities and internal infrastructure is a determinant factor if the operators' transactions are to be efficient, especially during peak container transportation flow times. Users of container terminals are extremely sensitive to time and reliability[59].

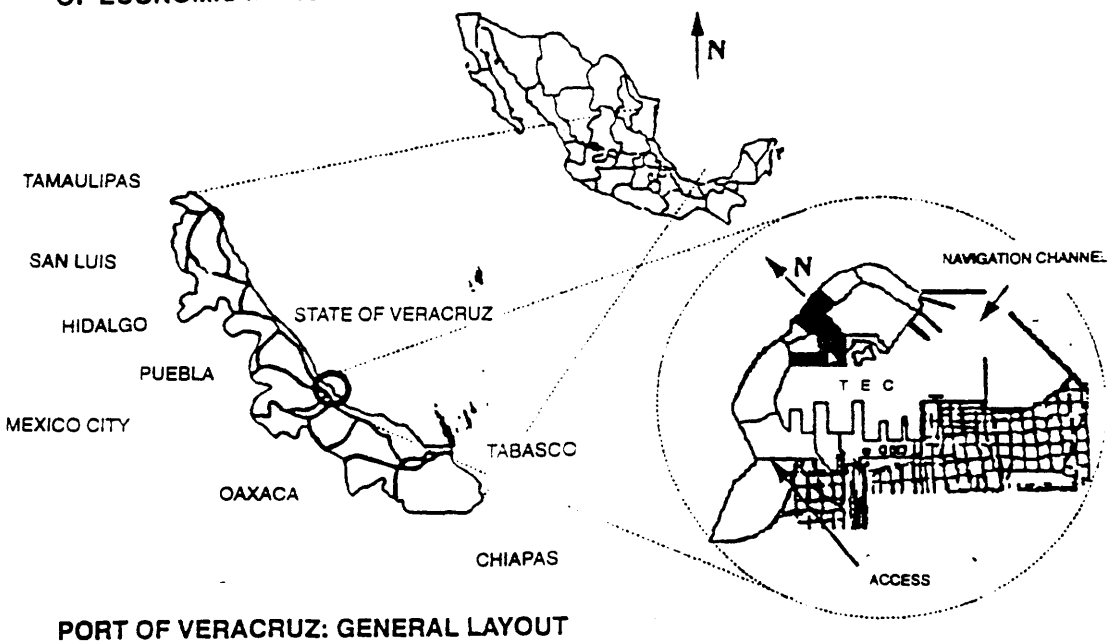
[59] Dowd and Leschire "Container Terminal Productivity: A Perspective" Maritime Policy and Management Vol. 17 No. 2, 1990; pp. 107-112

The port of Veracruz is located on the Mexican Gulf coast, being the most important port of Mexico in the east. Its geographic location, zone of influence and distribution of terminals and major maritime works are shown in figure 4.1 (source [60]). In 1993, Veracruz handled 21% of the total cargo moved by the commercial ports, placing second behind Lazaro Cardenas, on the Pacific coast. However, Veracruz remains the most important sea gateway of Mexico due to its strategic location with respect to the main consumption/production centers of the country.[61] In the same year, this port handled 28% of the transoceanic cargo of the Mexican port system. Figure 4.2 presents the evolution of commercial cargo volume at the port (source, [60]). The infrastructure of Veracruz covers an area of 569.5 Ha, of which 367.8 are located inland. Total length of wharves is 8000 m, 41% for transoceanic operations. The access channel has a length of 2.8 km and 15 m depth. Veracruz has 6 inner turning harbors with 12.5 m depth, and 23 wharves of reinforced concrete. Nine of them are utilized to carry out commercial operations. There are 17 berthing positions. Veracruz's main maritime signalization system is integrated by 3 beacons and 23 positioning buoys. The different terminals existent in Veracruz handle general bulk cargo, grain bulk, mineral bulk, molasses, vehicles, fluids and containers. From an economic activity perspective, this is extremely beneficial for the zone of influence of the port. Existing infrastructure has been underutilized and its potential must be fully exploited through the new port management perspective. [62]

Common port infrastructure development goals are established in the port master program, as mentioned in the last chapter. The new model of institutional organization requires

[60] ICA "Estudio de la Terminal Especializada de Contenedores de Veracruz" ICA, 1995
[61] Administracion Portuaria Integral de Veracruz. Presentacion. APIVER 1995
[62] Personal Interview, Dr. Ernst Frankel, MIT

FIGURE 4.1 PORT OF VERACRUZ: GEOGRAPHIC LOCATION AND ZONES OF ECONOMIC INFLUENCE



PORT OF VERACRUZ: GENERAL LAYOUT

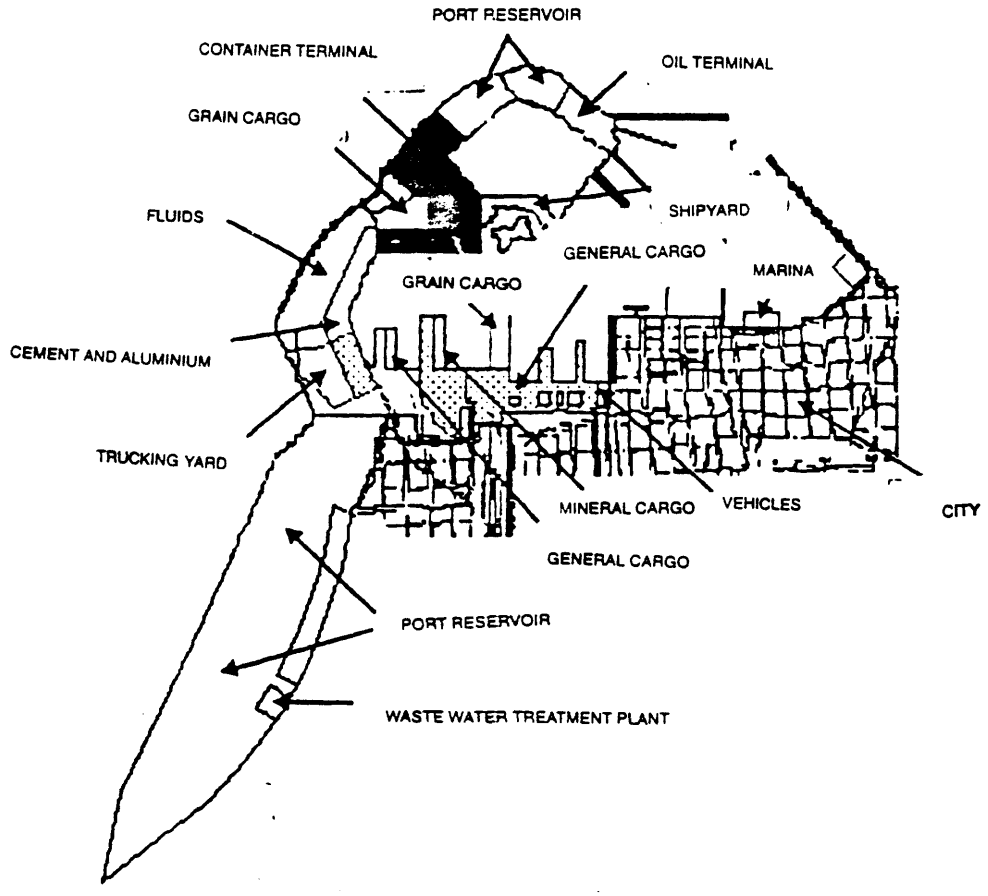
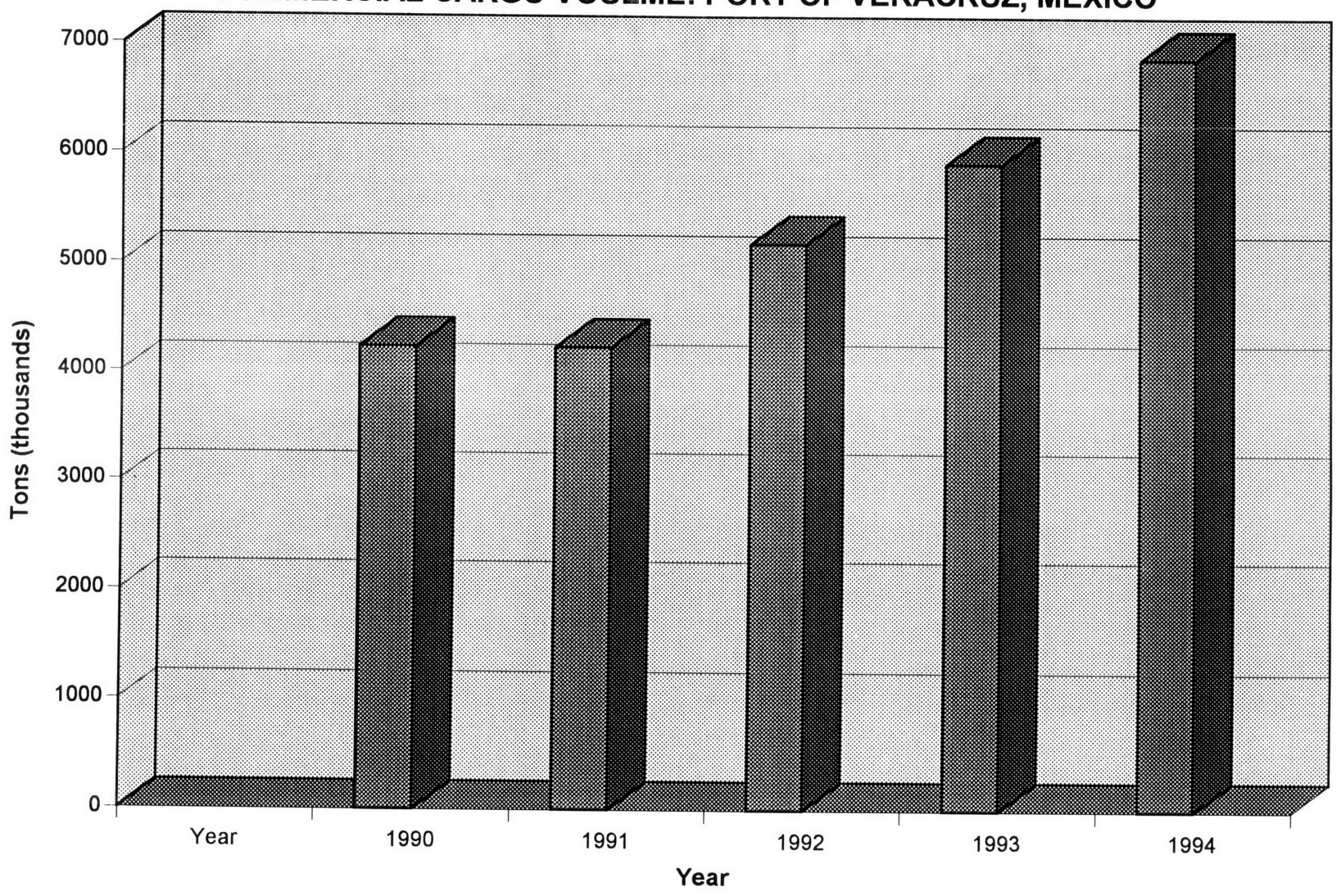


FIGURE 4.2
COMMERCIAL CARGO VOULME: PORT OF VERACRUZ, MEXICO



the API of Veracruz to achieve these goals. It must continuously evaluate the program, in order to detect whether changes should be proposed for the benefit of the strategy of the port administration, coastal development or the economy of Veracruz's zone of influence. The master program's objectives must be aimed to ensure basic, efficient infrastructure exploitation and port performance. Investment in port common infrastructure and major works has a strategic character, and a consolidating factor and support for the port's business units.

The API of Veracruz has decided to channel some of the resources raised from the concessions to the construction of its infrastructure. The port of Veracruz has faced delays in general infrastructure investment, strongly affecting its operational efficiency and profitability. To keep the current position of Veracruz in the national port system, it is necessary to direct resources in the short term to the rehabilitation and maintenance of the existing facilities.[63] In the same way, land use patterns and urban reorganization are issues that must be progressively redesigned in order to improve port accessibility and ease transportation exit.

Regarding this, the port of Veracruz Consulting Commission will play a key role. Therefore, the API of Veracruz will have to implement an effective financial program, in order to fulfill the objectives established in the development program and concession of the administration title. Adequate basic port infrastructure also represents a strong factor to incentive private investment and future development of infrastructure for services provision. It can be a good indicator of the level of commitment of the API to achieve port's goals.

[63] Administracion Portuaria Integral de Veracruz "Programa Maestro de Desarrollo", APIVER 1995; p. 100

To upgrade and develop these kind of infrastructure, involves federal government participation (through credits, not grants) at the beginning. This will progressively decrease as the port operations revenues increase, giving the API adequate financial soundness to spend in fixed capital works.[64]

4.1.3 PORT STRENGTHS AND WEAKNESSES

The Master development program of the port of Veracruz establishes the basic path that API must follow to ensure an adequate performance of the port system. However, since the port administration is directly dealing with the market environment, it must implement effective strategic planning in order to allow further investment to be timely directed according to the port's needs. Although the Master program's framework should be taken as an overall guide, the API has to assess changes in the market environment, since economic instability is likely to inhibit long term planning. Therefore, the API of Veracruz faces the challenge of matching its resources and port vision with the external market changes, in order to fulfill user's needs, towards real achievement of competitiveness[65]. The API of Veracruz's core objective (in light of the expected enhancement of competition among ports), is to keep Veracruz as the most important port of the country, and Mexico City's market seagate. This is stated in the Master Development Program. Complementary actions directed to solve current infrastructure problems in Veracruz, are needed in order to support the achievement of the port mission.

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[64] Administracion Portuaria Integral de Veracruz "Programa Maestro de Desarrollo", APIVER 1995; p. 114
World Development Report 1994 "Infrastructure for Development" Oxford University Press 1994; p. 120
[65] See Kotler, Philip "Marketing Management: Analysis, Planning and Control" Prentice Hall 1976; p. 63

Port services in Veracruz must be operationally and physically integrated with the new cargo handling and transportation technologies. Intensive introduction of multimodal services is a priority, since the most important operational transformation requirements in Veracruz are related to containerized cargo flow. However, one important port strength is the variety of specialized terminals and business units that the port offers to investment. Therefore, the high quality infrastructure for bulk cargo handling (grains, minerals and fluids) should be maintained and improved as it is transferred to the private sector, looking for business oriented management and enhancement of operational efficiency. On the contrary, Veracruz also has obsolete service systems, which obstruct port operations and rely on transportation methods inconsistent with overall needs.[66] In the same way, it is necessary to increase storing space to take full advantage of the port's loading and unloading capacity. As will be discussed in the next section, inland cargo transportation O/D Veracruz has been favored by the construction of high specification roads. Besides this, the Mexican railroad system current privatization has as one of the main objectives to be a strong competitor with roads in serving ports.[67] Therefore, in order to take full advantage of these complementary infrastructure actions, the capacity and transportation efficiency of the transition segments between the port and inland systems has to be improved. This will reduce the possibility of traffic bottlenecks at peak hours, which has also been a damaging factor for the port's overall efficiency. Port facilities expansion in the future should not be obstructed by disordered urban development. The wharves need to be expanded according to the expected growth in operations motivated by the introduction of commercial management, and their usage should be redesigned to fit the new land use patterns resulting of the transference of services. The

[66] Administracion Portuaria Integral de Veracruz "Programa Maestro de Desarrollo", APIVER 1995; p. 6
[67] Cargo Systems, December 1995; Intermodal Section

port of Veracruz Operations Committee should make the adequate assessment and recommendations.

As can be noted, strong investment is needed in the short and medium terms in order to maintain the strategic position of Veracruz in the national port system. Solutions to the issues mentioned above are indispensable for the future development of the port and represent a strong incentive for investors to continue participating in the privatization process. This is the only way in which progressive expansion of activities in the port will take place. The main strength of the port is that the existing infrastructure for services has wide potential for being exploited to full capacity.

4.1.4 INTERMODAL LINKAGES[68]

Veracruz is connected to the north, center and southeast of the country by road and railroad systems. However, while containers can be transported by world class road infrastructure, the railroad routes linking Veracruz need to be upgraded in the short term to permit cost reduction in container unit transportation. This will only occur if the railroad routes are able to compete effectively with roads. The average road and rail distances, and container transportation costs from Veracruz to Mexico City during the 1st half of 1994 were the following:

Average distance	Cost USD (1st semester of 1994)

[68] See: ICA "Estudio de la Terminal Especializada de Contenedores de Veracruz" ICA, 1995; p. 22-23

Road	424 km	780
Railroad	418 km	725

Three railroad routes link Veracruz with inland territory. All have a capacity of 120 lb. / yd. Route 2 has currently the best conditions for container transport, due to its double stack capacity:

Route 1.-Veracruz - Jalapa - Texcoco - Los Reyes - Mexico D.F. (To the center)

Route 2.-Veracruz - Cordoba - Orizaba - Puebla - D.F. (To the center)

Route 3.-Veracruz - Tierra Blanca - Coatzacoalcos (To the southeast)

Cargo O/D Veracruz can be transported by three toll roads with four lanes each:

1.-Veracruz - Cardel (To the north)

2.-Veracruz - Cordoba - Orizaba - Puebla - Mexico D.F. (To the center)

3.-Veracruz - Minatitlan - Coatzacoalcos (To the Southeast)

The high quality road linkages of Veracruz and the current transference of the railroad routes to the private sector, will enhance container transportation flow efficiency between Veracruz and the largest market in the country: Mexico city, with 22 million inhabitants. The scale of concentration of Mexico city population and manufacturing favors long-haul rail moves over road transportation, so both systems in competition will lead to cost optimization and pursuance of high quality services.[69] These are issues that the TEC concessionaire or operator has to market to attract shipping liners. The quality of road infrastructure has prepared the ground for the operator to exploit to the fullest extent the container terminal of Veracruz. The operator, through the concession has to take advantage of this. Since the railroad routes are undergoing fast

[69] Cargo Systems, December 1995; Intermodal Section

restructuring in management and technology towards profitable operations and competitive edge, the concessionaire of the terminal has strong incentives and support from inland transportation to improve TEC's operations.

4.2 THE SPECIALIZED CONTAINER TERMINAL OF VERACRUZ (TEC)

4.2.1 TEC'S INFRASTRUCTURE[70]

The TEC of Veracruz, concessioned to the private sector, is located at the North of the port of Veracruz. Its area is limited at the west by Veracruz's shipyard and at the east by the fluid cargo and grain terminals. Terminal layout and characteristics are presented in figure 4.3 (source [70]). Operation of the TEC began in 1981, and the cargo evolution has registered an annual growth of 29% in the 1990-1994 period, reaching throughput of 250000 TEUs in the last year. The terminal will have a 507 m wharf, of which 339 are currently used for container handling. The remaining 168 m are being reinforced for container operations, and the grain and molasses terminals will be relocated allowing for storage area expansion. The wharf has two berthing positions, width of 21 m, height of 2.4 m and design depth of 12 m. It should be noted that the entire wharf length will be dredged in May of 1996, according to the Master Program. The container storaging yard has an area of 213704 sq.m. In addition, the terminal has two power stations of 7100 and 3500 KV and a diesel storaging tank with capacity of 15 tons. Regarding major equipment, two Takraf wharf cranes of 30.5 tons, purchased in 1979 and two Bardella-Mitsubishi cranes with capacity of 40.6 tons perform loading and unloading operations. Automated logistics and information systems are to be implemented by the concessionaire.

[70] ICA "Estudio de la Terminal Especializada de Contenedores de Veracruz" ICA, 1995; p. 4-59

Upgrading of the terminal's intermodal connections is strongly needed. (the capacity of the rail adjacent to the TEC should be improved to double stack).

The need to increase container throughput at the port of Veracuz close to TEC operating capacity is critical, since each container box destined to Mexico that is handled out of the country, represents a loss of approximately 1000 USD.[71] Only then, new terminal construction on the Mexican Gulf coast will be feasible. New developments should be constructed out of urban zones to allow terminals capacity growth to be less constrained.

4.3 TRANSFERENCE OF CONTAINER SERVICES TO THE PRIVATE SECTOR

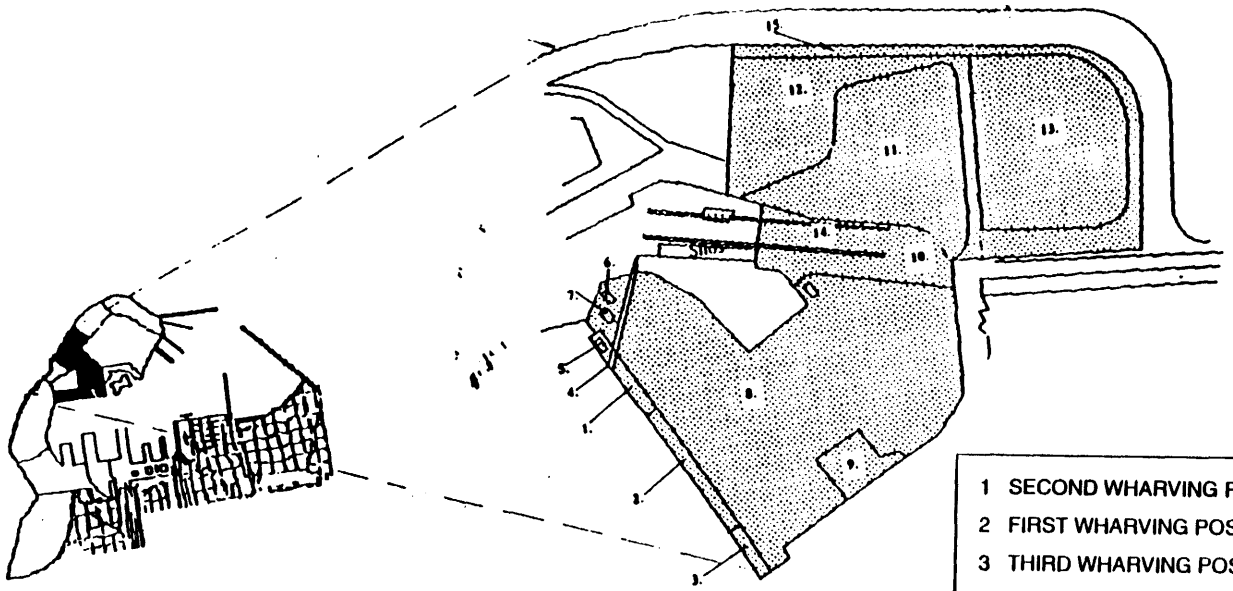
On February 27th, 1995, the federal agency Puertos Mexicanos and the APIs of Veracruz, Lazaro Cardenas, Manzanillo and Altamira, called for international concession bidding on the operation and management of the container terminals at their ports. The concession period was determined to have a duration of 20 years, and the bidding included the purchase of existing container handling equipment.[72] The concessions on container services are not exclusively granted. In case new terminals are constructed, different operators can supply the market at the same port. Revenues of the concessionaire/operator will be a product of container loading/unloading, consolidation/deconsolidation, storing and inland shipment operations. The

[71] Personal Interview, Dr Ernst Frankel, MIT

[72] API Veracruz, API Altamira, API Lazaro Cardenas, API Manzanillo, "Concurso Internacional para la concesion de terminales especializadas de contenedores y usos multiples", Febrero 1995

PORT OF VERACRUZ: SPECIALIZED CONTAINER TERMINAL LAYOUT

FIGURE 4.3



TOTAL AREA: 374074 m2
WHARF LENGTH 507 m
WHARF WIDTH 20 m
WHARF DEPTH 12 m
WHARF CRANAGE: 40.5 TONS (2)
30.5 TONS (2)
YARD CRANAGE: 40.6 TONS (5)

1 SECOND WHARVING POSITION
2 FIRST WHARVING POSITION
3 THIRD WHARVING POSITION
4 SUCTION MACHINERY FOR GRAIN CARGO
5 GRAIN TRANSPORTATION BAND
6 POWER STATION
7 OFFICES
8 MAIN YARD
9 EXPANSION AREA
10 CONTAINER YARD
11 CONTAINER YARD
12 CONTAINER YARD
13 CONTAINER YARD UNDER EXPANSION
14 RAILROAD CONNECTION
15 ROAD CONNECTION

characteristics of the concessioned container terminal and the purchased equipment by the concessionaire were already portrayed. The sequence of the bidding process was the following:

- Prequalification of participants
- Selling of bidding bases
- Payment of seriousness guarantee
- Submission of proposals
- Evaluation of technical proposals
- Opening of financial proposals
- Awarding decision
- Delivery of facilities and equipment

Although the capital structure of the concessionaire can be entirely constituted by foreign investment, it must be formed as a company under the Mexican law.[73] This is demanded by the port law to avoid intergovernmental dispute resolution. In order to ensure bidders technical, operational, managerial and financial capacity, prequalification documents were to be submitted, including capital structure and all financial information of the participant corporations. In addition, the proposers should sustain by means of official documents that they had the capacity to operate and manage a container terminal with throughput of at least 100 000 TEUs. This was the common ground to evaluate the technical proposals.

[73]Bidding Prequalification Documents; APIVER

After being prequalified, bidders submitted both, technical and financial proposals to the API of Veracruz. Assessment and evaluation of the technical proposals preceded opening and evaluation of the financial ones. Therefore, the API of Veracruz performed in first place a comparative and rather qualitative and subjective analysis of the technical proposals considering the extent to which the prequalification information, besides business and operational plans of the concessionaire ensured best value and quality to the provision of container services. Labor relations and technology transfer issues were also evaluated. Factibility of these plans were determined by the API of Veracruz's decision committee. It also assessed the level in which the technical proposals were consistent with price competitiveness policy. Evaluation criteria for the technical proposals in order of importance was the following:

1.Corporate and financial profile of the proposer (Or partners)

1.1 Corporate status of the proposer - reputation

1.2 Capital structure

1.3 Current financial soundness and capacity

1.4 International experience in container operations

2. Capacity (management, operations, technology)

2.1 Capacity in the operation of similar container terminals

2.2 Experience in ocean systems management and maritime transportation

2.3 Current international contracts

3 Proposed business plan

3.1 Quality of the objectives established by the proposer

3.2 Feasibility of the projections cargo volume/price

3.3 Potential to attract clients and increase volume of cargo handled

3.4 Financial expected results

3.5 Commercialization goals

3.6 General consistency of the business plan

4 Terminal operations program

4.1 Investment and proposed improvements

4.2 Operational schemes proposed

4.3 Capacity to provide multi-user services

5 Labor relations plan and technology transfer

5.1 Labor conditions proposed

5.2 Scheme for human resources development

5.3 Mechanisms for technology and know how transference

All the established by the participant in the technical proposal, including committed improvements and investments acquired contractual character in case of being awarded the concession. Financial proposals had priority over technical proposals, since they are a better indicator of the level of commitment of the proposer. However, technical proposal evaluation could define the winner in case of financial offer tie (Difference of 3%). Evaluation criteria for financial proposals was the net present value of the different payments due to the API of Veracruz over 20 years of concession[74]:

- Fixed lease payment to the API (Monthly, to be inflation adjusted)
- Variable payment to the API depending on the number of TEUs handled (As more TEUs are handled, payment decreases)
- In addition, upfront payment of concession rights and purchase of equipment, taking as base APIs valuation of assets (Wharf and yard container cranes, were valued 16 000 000 USD).

The API of Veracruz received technical proposals submitted by 4 international consortia. After their analysis and evaluation, the financial proposals were opened. The financial proposal of the joint venture between Mexican company Ingenieros Civiles Asociados (ICA) and Philippine International Container Terminal Services Incorporated won the concession for operation and management of the TEC of Veracruz. Financial offers of the proposers were the following (NPV 20 years):

	Mexican Pesos (Millions)
ICA/ICTSI	531.24
Transportacion Maritima Mexicana/	513.16

[74] ICA "The Bidding Process", ICA 1995

Stevedoring Services of America	
Sudamericana de Agencias Maritimas (Chile)	222.82
Tribasa (Mexico)/ P&O Containers (Australia)	153.48

The figures shown were offered as NPV of monthly fixed payment to the API during the 20 years concession period. In addition ICA/ICTSI paid in August of 1995, 17 million USD for equipment purchasing and 15 million USD for concession rights. It can be seen that the international bidding involved only transference of services provision using existing infrastructure. Therefore, the ground for competition was well defined for the all the proposers, mainly based on the financial proposal and monetary commitments in the technical proposals. Eventual implementation of tariff regulation on container operation can severely affect the operator's financial considerations, since payments to the API can not suffer any kind of modification. One month before privatization the tariff applied to complete operation (loading/unloading, delivery yard/vessel or vessel/intermodal vehicle) was 140 USD per box.[75] Tariff can be monthly actualized according to inflation changes. The competitive environment in which a port operates has an important impact on tariff design. Competition arises between ports, extended to international maritime trade, and this competition is not only cost focused. Reliability and efficiency are both important components of cargo handling, so there exists a transaction between cost focus and premium value. From my point of view, tariff strategy is integrated by two parts. The competition for transit cargo, for example in the case of containers, which require frequent adjustments in tariffs.

[75] ICA "Estudio de la Terminal Especializada de Contenedores de Veracruz" ICA, 1995; p. 23

4.4 STRUCTURE OF THE OPERATOR

The ICA/ICTSI joint venture was constituted as a corporate company enacted under the Mexican laws[76] (ICAVE). It will start operations with assets base of 30 million of new pesos. Shareholding and franchise structure is shown in figure 4.4. Strategic decision making will be performed by ICAVE's board of directors, which is also in charge of ordering implementation of actions on operations. During all this process, the board of directors will interact with the directions of operations, finance and management. Complementation of capacities drove consolidation of this strategic joint venture. The experience of ICTSI in port development accounts 70 years in the Philippines.[77] The company's relationship with liners, maritime organizations and commercial agents, besides its high technological expertise will facilitate ICAVE's response to the TEC user needs. Through its operations and management, ICTSI has transformed Manila International Container Terminal in one of the top 5 terminals of Asia. Recently ICTSI was awarded a 18 year concession on the O&M of the terminal NO. 5 at Puerto Nuevo, Argentina. ICA is the largest construction company in Mexico and Latin America. Among its business, ICA includes industrial construction and manufacturing of heavy equipment and operation of mineral cargo terminals. During recent years, ICA has fully entered into developing financial schemes for infrastructure development, and it has financed large scale projects both in Mexico and Latin America.[78] Its expertise in industrial equipment manufacturing and financial strategy in developing countries are valuable skills added to ICAVE. ICA's projection of throughput, considering three business scenarios is shown in table 4.1.

[76] ICA/ICTSI Joint venture agreement
[77] ICTSI Annual Report 1994
[78] ICA Annual Report 1994

4.4.1 CONCESSIONAIRE PROGRAMMED INVESTMENTS

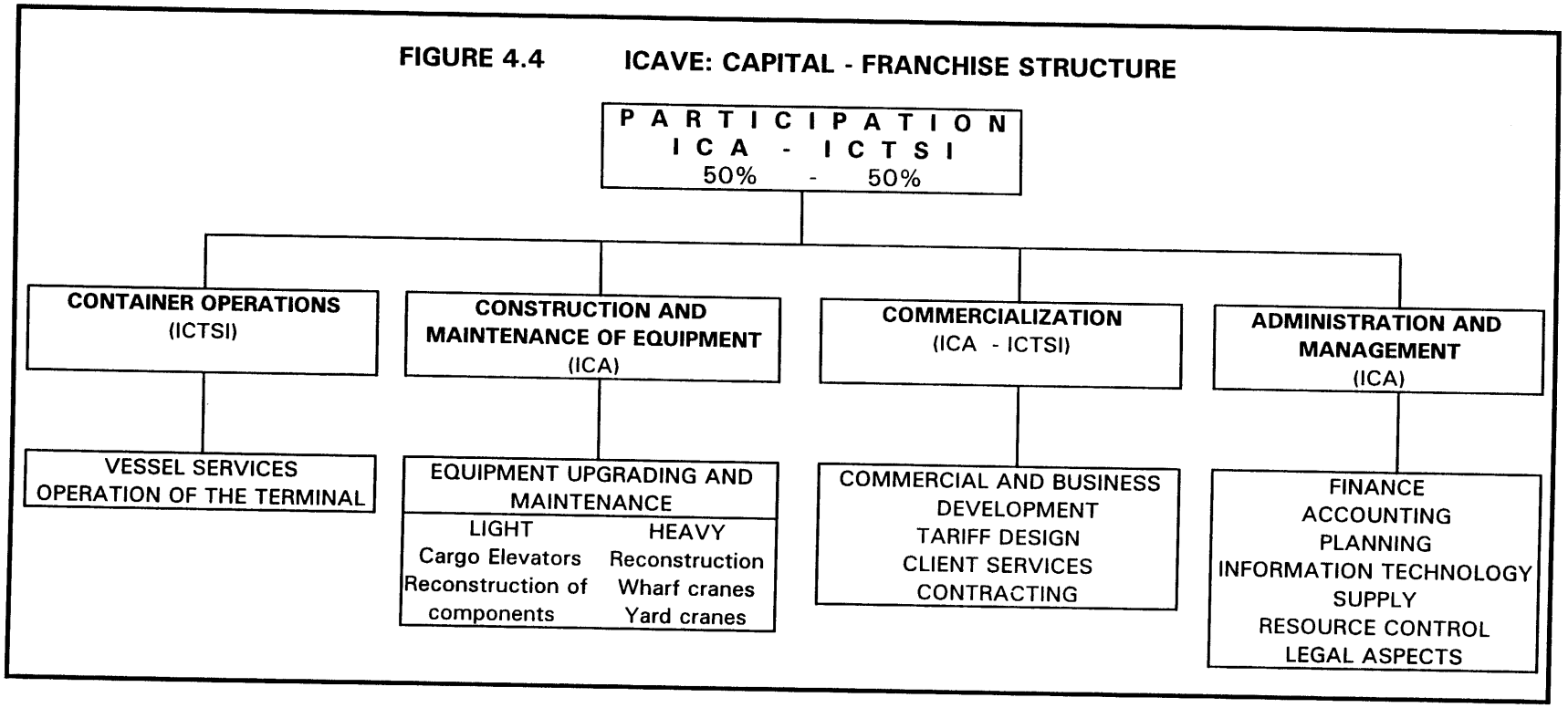
ICAVE has developed an investment plan in order to improve operations at the terminal, including the implementation of a computerized system (cosmos) for their control. The core concepts included in the plan are the following[79]:

- Modernization of the existing cranes and major complementary yard equipment
- Redesign of the storing yard
- Restructuration of the 168 m wharf segment to be incorporated to container services
- Progressive purchasing of high technology equipment, which will be motivated by demand increases. Acquisition of a new 40.6 ton crane with its complementary support equipment is considered in the year 2000 if the actual throughput corresponds at least to the 1/2 scenario forecasts. Equipment maintenance and insurance spending programs were included
- Regarding civil works, new offices, a maintenance yard and warehouse will be constructed. Existing structures will be modified in order to increase the storing capacity for refrigerated containers.

[79] ICA/ICTSI Technical proposal

TABLE 4.1 CONTAINER THROUGHPUT FORECAST (TEUs) TEC AT THE PORT OF VERACRUZ, MEXICO			
Year	Pessimistic scenario	Medium scenario	Optimistic scenario
1996	203183	229363	248086
1997	221470	256886	280338
1998	241402	282575	311175
1999	260714	308007	342292
2000	281571	335727	376521
2001	304597	362586	410408
2002	328425	391592	447345
2003	351414	422920	483133
2004	376013	456753	521783
2005	398574	488726	563526
2006	422488	522937	608608
2007	443613	554313	651211
2008	465794	587572	696795
2009	489083	616951	738603
2010	508647	647798	782919
2011	528992	680188	822065
2012	550152	707396	863169
2013	566657	735691	906327
2014	583656	757762	942580
2015	598248	780495	980283

FIGURE 4.4 ICAVE: CAPITAL - FRANCHISE STRUCTURE



CHAPTER 5 ANALYSIS OF THE MEXICAN PORT PRIVATIZATION PROGRAM AND STRATEGIES FOR FUTURE DEVELOPMENT

5.1 PROPOSED STRATEGY TO ATTRACT PRIVATE INVESTMENT

Infrastructure projects in Mexico are subject to laws that define rules for investment, operation, and tariff implementation. In the broader scope, the regulatory framework is composed by the following federal laws:[80]

- Federal Constitution of the Mexican United States.
- The Law for Foreign Investment, which defines the share percentages permitted to private investors to access.
- The Law of Public Works, which controls specifications for construction and infrastructure equipment.
- Federal laws which specifically address each infrastructure system. In the case of the port system, the port law.

An adequate strategy should involve four concepts. The first one is the recognition of government as no longer the only responsible agent of port infrastructure development. This is strongly linked to modification of the port law. The law should be aimed to give Mexican investors total access to invest in infrastructure and facilitate the access of foreign capital.[81] In addition, the law should be adapted in such a way that it could be compatible with national

[80] SCT "Oportunidades de Inversion en Infraestructura Basica en Mexico" SCT 1993, p. 65

[81] SCT "Oportunidades de Inversion en Infraestructura Basica en Mexico" SCT 1993, p. 11

economic conditions and already implemented market liberalization. Clear definition of rules and responsibilities will offer security and stability to the participants in privatizing ports.

The second important issue is a shift in implementation perspective. The first undertaking in port privatization is to define what is to be transferred. Technological change followed by world port systems is aligned with the unbundling approach[82], since increasing specialization of operations is required. However, special attention requires the interaction among the various parties involved in specific projects, in order to provide the stability needed by long term investments. Lack of coordination among relative interdependent port business units can impose high transaction costs. We can see that in the port case, where boundaries among services are difficult to differentiate, more flexible regulation and coordination among interested parties can make transfer of services more effective. This will be a task of the Port Operations Committee. Ports should be unbundled or separated in their basic business units according to the following:

- Identify the units or areas that represent highest profitability
- Structure them in order to get better return on investment, making them attractive to private investors.
- Attract participants according to their core specialties In this way, technological, operative, and financial risks can be more efficiently managed, and the value of services increased.

The government has to invest directly and participate only in infrastructure development whose level of fixed capital represents no possibility for private investors to profit[83].

[82] World Development Report 1994 "Infrastructure for Development" Oxford University Press 1994; p. 52
[83] World Development Report 1994 "Infrastructure for Development" Oxford University Press 1994; p. 120

The third element of the strategy is adequate privatization financing. Private sector promotion of new financial schemes must be a priority. Port infrastructure privatization requires high levels of long term investments. Adequate mechanisms that clearly define the financial role of each participant, whether national or foreign, must be designed. Mechanisms should ensure project pay off according to the expected cash flow and minimize financial risk through diversification. Use of different national and international financing instruments is encouraged. The number of shareholders of Port Administrations will progressively increase if effective financial management is performed.

The fourth issue is selection of privatization technique. The actual strength of capital markets will determine whether certain privatization methods can be applied[84]. The potential participants will be sensitive to this and they will determine the feasibility of the project under the limitations and constraints of the financial market.

5.2 PRIVATIZATION PROGRAM STRENGTHS

The achievement of port privatization objectives related to institutional change, implies creation of incentives to improve performance. The business approach brought by the private sector and its involvement in port financing, management and operations will give a commercial orientation to port infrastructure exploitation. The introduction of liberalization in the Mexican port system is to enhance competition to supply the market. Open bidding to supply this market

[84] Vuylsteke, Charles "Techniques of Privatization of State Owned Enterprises" World Bank Publications, 1988; p. 4

will lead to efficiency enhancement and improvements at every stage of infrastructure development, from planning to operations. A benefit from change is the opportunity to allocate public resources formerly directed to subsidize port operations to high national priority undertakings. The Mexican port privatization program shows creativity in its design and has particular strengths, which can address in an effective way the basic concerns of the port system in Mexico. The strengths are listed as follows, and they provide support for the national port institutional model.

- Redefinition of the role of the Mexican government in port activities. The government will retire its participation in port administration, operation of infrastructure, and provision of services. Regarding Infrastructure development, the government will no longer have direct intervention in construction of facilities for services. However, its role concerning major works will be variable. The role of the government in port infrastructure operations becomes strictly constrained, but it keeps as director of the national interest.

- Decentralization of port administration. Each port will have its own administration (API, Administracion Portuaria Integral, constituted by law), to which the legal framework grants managerial independence from the federal government. In this way, accountability and financial self sufficiency will be unavoidably pursued. Decentralization will cut with managerial vices by means of establishing independent port administrations, therefore isolating port infrastructure form noncommercial pressures and constraints. This is the first step in retiring government control in port administration control towards progressive

privatized APIs. or port administration this constitutes a base for future design of port tariff structures to ensure cost recovery, profitability and demand driven services.

- Participation of the private sector not only in construction and operation of infrastructure and provision of services but also in the administration of ports. This is to yield accountability. Private participation in port authorities will ensure efficient and full transference of port activities provision and competitiveness' enhancement. Mexican ports will be run under commercial rules, leading to the establishment of clear and specific goals by the APIs and the federal government.

- Creation of mechanisms aimed to ensure rational development of the port and to facilitate the relationships among participants in port activities. In recently privatized ports the benefits in terms of improved productivity and efficiency are difficult to identify. Therefore, adequate monitoring by the Operations Committee and Port Consulting commission and coordination will ensure responsiveness to customer needs at the beginning of the process. Adequate performance of these organizational devices at this stage, can provide flexibility and a base for future port profitability. In addition, whatever government concerns are on controlling areas such as safety or environmental protection, they must be imposed in such a way to affect the operations, economics and competitiveness of the privatized enterprise as little as possible, if at all. The Operations Committee and the Port Consulting Commission will help to attain this goal.

- Interaction of private port administration with the new federal agency is an excellent advantage to introduce expertise in the benefit of the national interest. The main fact is that the political commitment to reform is present. Public sector's new role needs to be implemented and constantly improved, since it undoubtedly will be a requirement for sustaining port productivity and efficiency. The role of the Government in Maritime infrastructure changes from merely coordinating to interactive. Therefore, effective alignment of individual port objectives is to be pursued and interest of special parties will not damage the potential benefits of the restructuration.

5.3 PRIVATIZATION PROGRAM WEAKNESSES AND THREATS

5.3.1 POLITICAL AND ECONOMIC ASPECTS

To the same extent that the Mexican port privatization program considers solutions for improving the port industry by taking into account the particular characteristics and problems of the system, its success can be threatened by several issues. They mainly correspond to political aspects and potential economic factors altering the port business environment. Political factors can threaten the very nature of the privatization program, since the port law allows eventual introduction of tariff regulation and entry barriers. This is an area in which much bargaining will occur among the government, APIs and operators. Restricting some corporations from competing will cause strains in the economy by promoting a protected port system.[85] Constrained

[85] Hemming and Mansoor "Privatization and Public Enterprises" International Monetary Fund 1988; p. 12

privatization without adequate deregulation to run the terminals as independent businesses causes inconsistencies that lead to conflicts and subsequent failure. The only accomplishment of such a policy will be to reduce the willingness for private sector participation and delays in reaping the program expected benefits. As the government seeks commitments from purchasers as to the future financial and economic behavior of the ports, investors must seek stable and sure commitments from the government so that they can operate their business satisfactorily.

To implement tariff regulation or entry barriers are factors against logic privatization and competition policies. To do this will damage the market discipline.[86] The new port law is not defending an uncontroversial and straightforward selling to the private sector. The whole privatization program can be defeated and its feasibility and success endangered if the legality of the transactions can be questioned retroactively. If market discipline and efficiency are respected, monopolies will keep prices close to costs due to the threat of entry of new participants. I consider that franchising and leasing mechanisms offer this possibility.

The macroeconomic environment for doing business will be critical to success. The main threat to the plans of future privatization of services and infrastructure and the already awarded concessions, is the macroeconomic environment of Mexico. Macroeconomic fluctuations are always reflected in the capital markets[87]. Mexican economic recovery will not be immediate, and the privatization of the port system will be progressive, so debt - led privatization would induce strong hazards for the less capitalized proposers. In the same way, these fluctuations can damage

[86] Hemming and Mansoor "Privatization and Public Enterprises" International Monetary Fund 1988; p. 14-15

[87] Hachette, Dominique "Privatization in Chile: an economic appraisal" ICS press, 193; p 99-106 and 164-165

the financial strength of concessionaires and consequently their ability to cover the economic obligations established in the concession agreement. Those participants relying on foreign capital who are not members of a joint venture with a foreign company face the risk of currency devaluation. This can be a source of operational risk, considering equipment. However, the present free flotation of the peso exchange makes easier to detect currency movements. Inflation figures greater than the ones considered by the worst business scenarios can damage the costs of production and consequently the demand for port services. The privatization program specifies that the private sector will absorb all risks.[88] An additional problem is that Mexican financial institutions do not currently have the capacity to ensure provision of long term resources. [89]Contrary to the desirable, port developers facing contingencies will have to use foreign sources of capital.

Policy on foreign investment also plays a main role. One purpose is to strengthen the capacity and expertise of the domestic private sector. Learning potential should be assessed when national corporations form joint ventures with foreign investors. In addition, difficult economic conditions require foreign direct investment as a resource for privatization. We can see this in the participation in joint ventures of firms such as P&O containers of Australia, International Container Terminal Services Incorporated of Philippines and National Stevedoring of America with national companies. In addition, involvement of foreign buyers is a factor for enhancing competition and quality of the proposals. It seems that although all the risks and potential privatization obstacles are to be borne and overcome by the private sector, their control is an

[88] ICA "Privatizacion de Puertos", ICA 1995
[89] SCT "Oportunidades de Inversion en Infraestructura Basica en Mexico" SCT 1993, p. 29

undertaking of the federal government. The government must take responsibility to provide an adequate business environment in order to ensure the soundness of the process and the fulfillment of port privatization objectives.

5.3.2 LABOR ASPECTS

Privatization of port services in Mexico will be accompanied by strong effects on employment.[90] Excessive overmanning at terminals can cause rationalization of workforce as direct result of privatization to acquire higher proportions.[91] Therefore, a decline of employment in the short term can be expected. However, the logic ground of this problem must be examined in order to avoid damaging the desired improvement in operations efficiency and productivity while respecting the social value of labor. The complexity involved has a strong effect on the potential application of port cutting edge technologies. It is difficult to assess the market value of the reduction in the number of people employed in order to determine the extent to which the expected financial flows of the private investor would be reduced in case of retaining them. Social policies are difficult to be imposed to the private sector investing in port infrastructure, due to the fact that financial and trade liberalization demand significant changes in productivity. For port enterprises, it will be more difficult to raise equity capital if excess employment issues are not solved.

[90] Personal Interview, Dr. Ernst Frankel, MIT
[91] Cargo Systems, December 1995 "Automation"

Measures to lessen adverse consequences on employees, which can be a base for a labor rationalization strategy can be the following:

- Special payments or packages offered to employees retiring voluntarily.
- Negotiated selection commitments with labor unions.
- Adjustments of levels of payment against pension guarantees.

The first two mechanisms are the most suitable to be implemented in the case of port privatization in Mexico although the third one may be very helpful to ease relationships.

However, the positive impacts on employment caused by improved productivity in terminals should be considered. Employment levels will grow as greater efficiency and improved services attract more traffic and private investors enter in new businesses. Same trends will be observed as new capacity for terminals is needed. Privatized ports in Mexico will interact with inland terminals, road feeder services, packaging and warehousing. These complements to port activities will offer better quality, productive and better paid jobs than those lost. In addition, the skills levels of workforce will be improved.

5.4 CONSTRUCTION OF PORT INFRASTRUCTURE UNDER PRIVATIZATION

5.4.1 THE QUADRANT ANALYSIS MODEL

According to the established in the Master Development Program and Port law, construction of two kinds of port infrastructure are analyzed: Port infrastructure for provision of

services and Common port infrastructure and major maritime works. The quadrant analysis model is useful to determine the kind of strategy in which infrastructure is developed by locating the transference of services and infrastructure procurement methods in a graphic framework.[92] Two axes are used to describe the government's fundamental strategies of infrastructure development. The vertical axis indicates the strategic way in which funds for development are provided either in a direct way from the government or in an indirect way, by involving the private sector to accomplish government goals. The horizontal axis indicates the level of integration of planning, design, construction, operation, maintenance and finance in the procurement process. If these stages are separated, the procurement process is considered segmented. Otherwise, the strategy is considered to have a system approach. (The procurement array is shown in figure 5.1, source [93]).

It must be noted that in Mexico port infrastructure construction and provision of services was carried out by the government in a direct way, prior to implementation of the privatization program. Construction of port infrastructure relied in federal funds and port services and operation were heavily subsidized. Construction were contracted to private companies based in lowest cost criteria. Although design and construction were integrated activities performed by the E/C firms (government provided schematic design) operation and maintenance were carried out by government personnel. As a result of this policy, In Mexico former port infrastructure development in Mexico was located exclusively in Quadrant IV, as it is presented in figure 5.2.

[92] John B. Miller "Aligning Infrastructure Development Strategy to Meet Current Public Needs" Doctoral Dissertation, 1995 MIT; p. 21
[93] John B. Miller "Aligning Infrastructure Development Strategy to Meet Current Public Needs" Doctoral Dissertation, 1995 MIT; p. 22

Figure 5.1: Infrastructure Development Strategies Array

The Quadrant Analysis Model

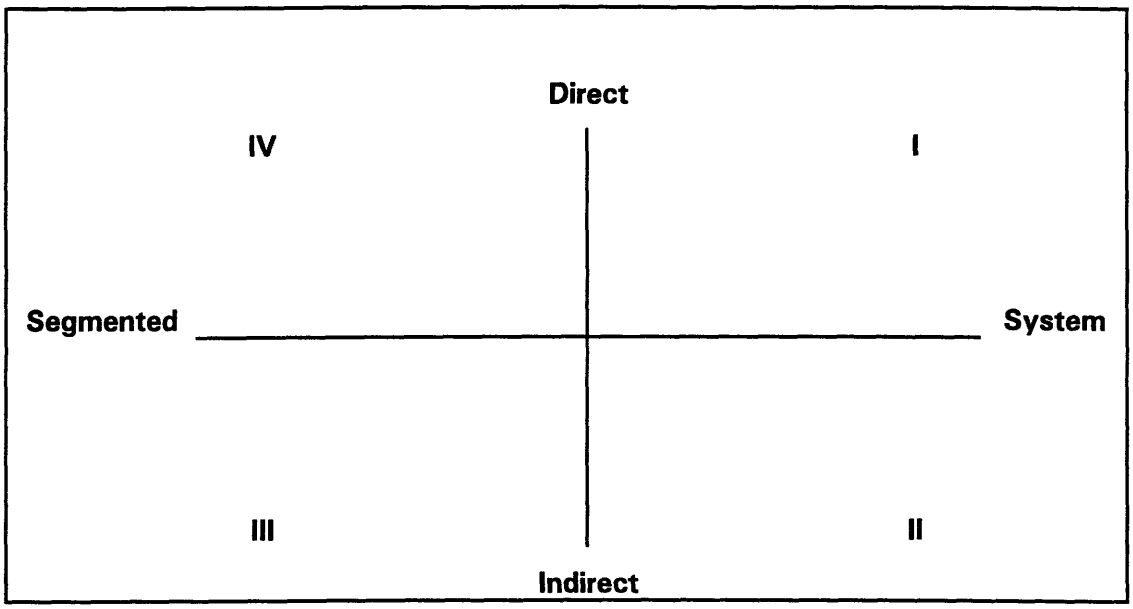
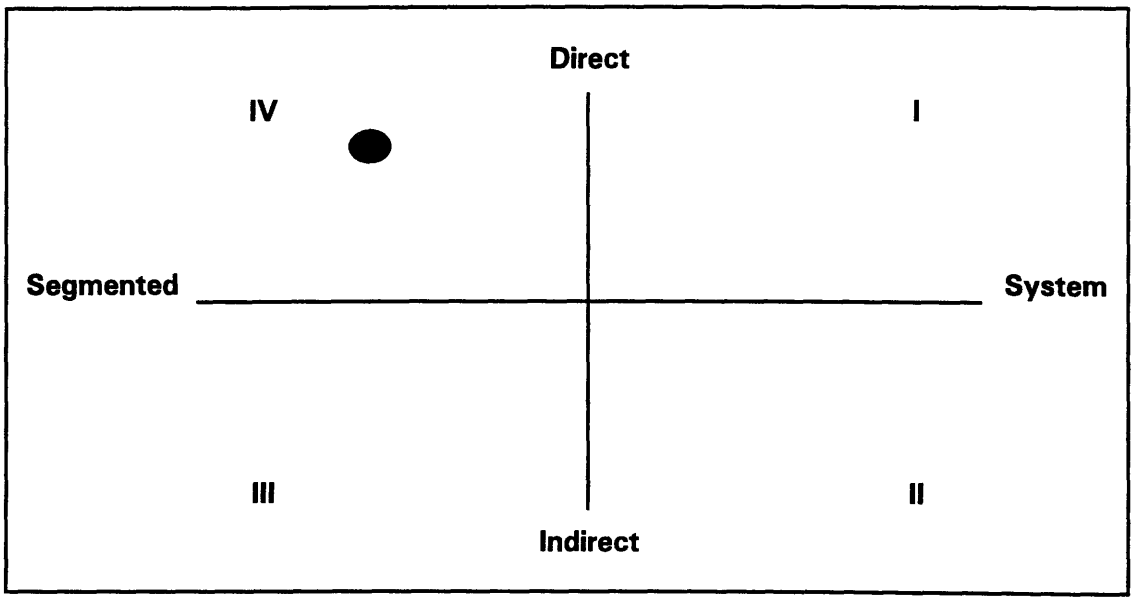


Figure 5.2

Mexico: Port infrastructure develoipment under government control



5.4.2 DEVELOPMENT OF COMMON PORT INFRASTRUCTURE AND MAJOR WORKS

APIs funds will be destined to the following undertakings, regarding construction of port infrastructure other than for provision of services:[94]

- Construction of infrastructure in common zones of the ports, for example, access roads, disassembly, demolition or improvement of facilities.
- Construction of major strategic works in partnership with the federal government, if necessary, in order to allow overall port goals to be reached. For example breakwalls, land refills or construction of utilities.
- General maintenance investments needed at common zones of ports.
- Cover the APIs' own expenses and their financial obligations with the federal government.

Funding for these infrastructure construction will depend on the revenues collected from concessionaires. In the design of this strategy I find creativity in aligning the contributions of the different concessionaires in the benefit of the whole port development. However, also government participation through credits will be needed in the construction of major works due to their high cost and fixed capital characteristics. Government loans will progressively decrease, as the market of the ports grows as a result of improved efficiency and productivity. At this point, the APIs will be in financial position to develop major works. The mix of public credits and private investment, being the latter the main source for infrastructure development, shifts

[94] Administracion Portuaria Integral de Veracruz "Programa Maestro de Desarrollo" APIVER 1995; pp. 100-120

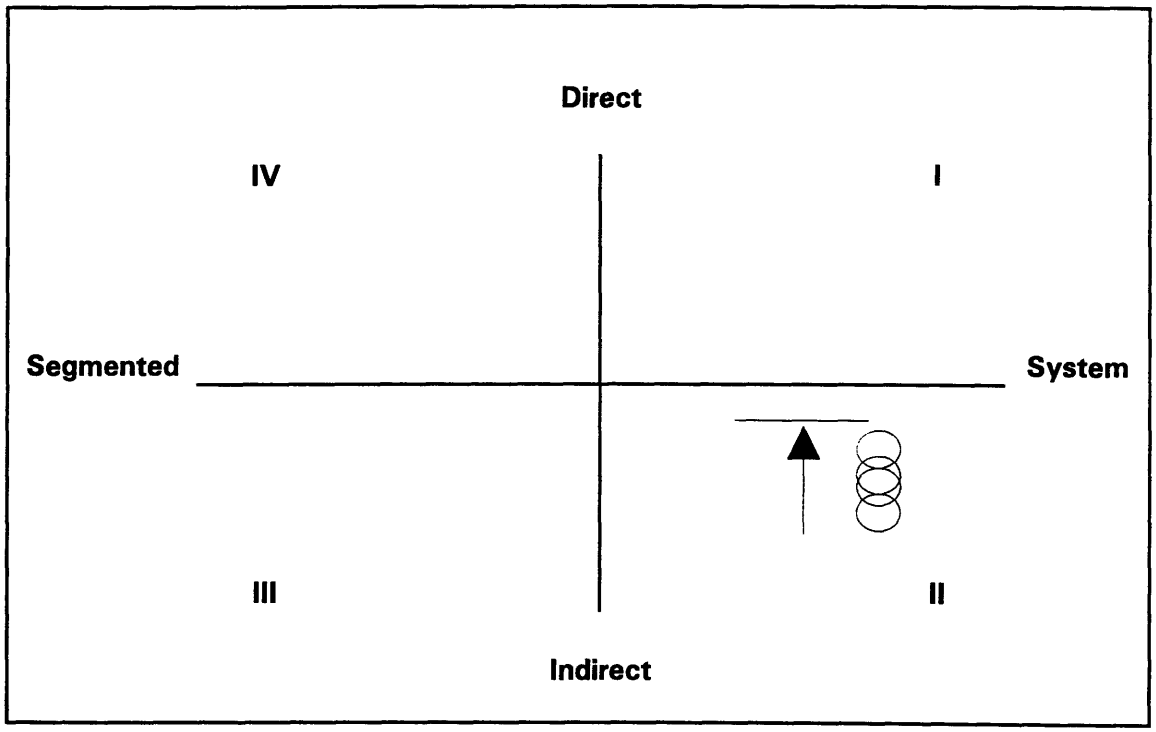
port infrastructure strategic development in Mexico from direct to indirect. Regarding integration level, attractiveness to operate and maintain these kind of infrastructure is high for port utilities and low for sea major works. In developing the projects, APIs should submit schematic designs according to the port needs (defined in the port master development), providing common ground for competition. In doing this, APIS will extend competition over of the project. Systematic project procurement will yield to the APIs better project value, through unified risks and incentives. Therefore, development of infrastructure other than for services provision in Mexican ports, is located in the model in Quadrant II, as is presented in figure 5.3. The strategy will be located farther or closer to the horizontal axis to the extent in which government financial intervention is needed to complete the works. In this case, government resources must be consciously committed and used only if indispensable.

5.4.3 DEVELOPMENT OF FUTURE PORT INFRASTRUCTURE UNDER PRIVATIZATION

When provision of services are consolidated at the Mexican ports, and the strategic planning of the APIs at port level and of CGP at national level determine the need for expanding terminals, indirect-system infrastructure development schemes must be implemented. Competition for the design, construction and operation of terminals, under Build-Operate-Transfer approach should be opened. Equipment for operations will be owned by the operator. Implementation of BOT is supported by unbundling of port activities. It enhances definition of responsibilities and risk allocation, besides the inherent benefits of adequate privatization. System based infrastructure development for Mexican ports will permit to structure competition, ultimately adding value to the project in timing, capital costs, operation and maintenance costs,

Figure 5.3

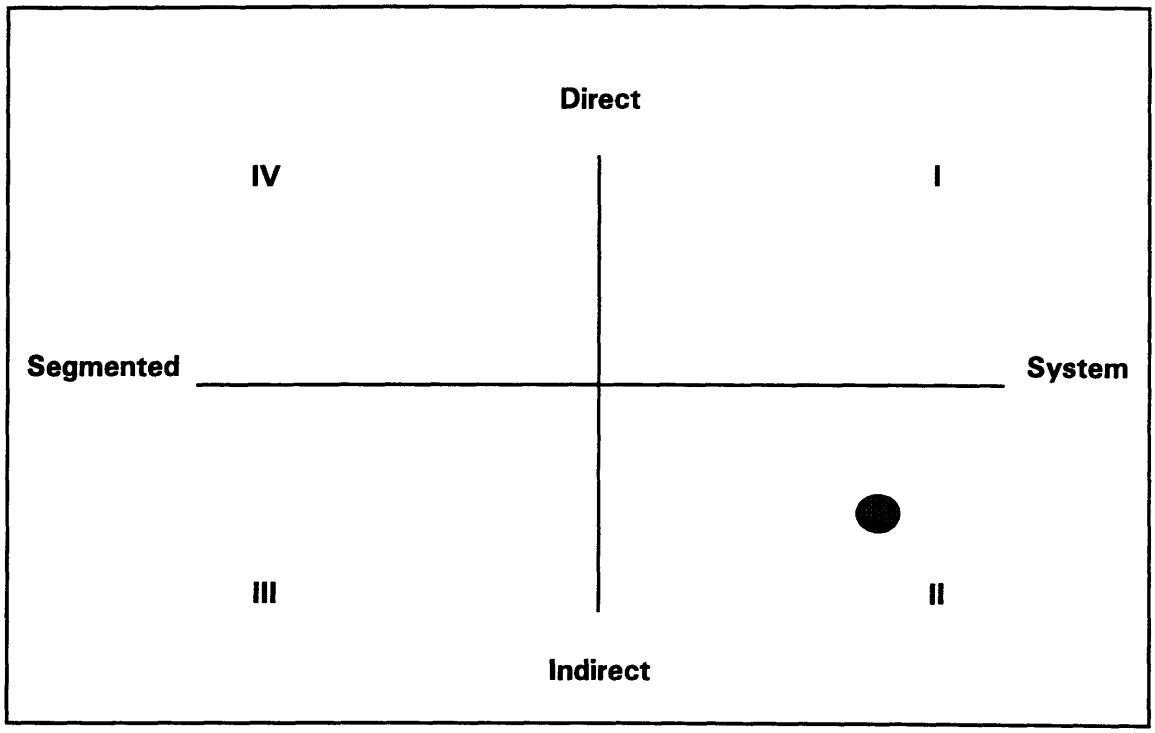
Mexico: Port Infrastructure Development under Privatization
Common port Infrastructure, Fixed capital Infrastructure



Level required of Government participation on fixed capital infrastrcture construction

Figure 5.4

Mexico: Port Infrastructure Development under Privatization
Infrastructure for Services Provision, Future Development Recommendation



and performance. In base to the discussed in former sections of this chapter, it is evident the alignment of this kind of procurement method with the strategies for solving the problematic of the Mexican port industry. See figure 5.4. The incentives implied in indirect - system methods will provide strong support for the success of ports strategic actions.

5.5 ANALYSIS OF THE PRIVATIZATION OF THE SPECIALIZED CONTAINER TERMINAL AT VERACRUZ

5.5.1 THE BIDDING PROCESS AND RISK ASSESSMENT

The bidding process presented an outstanding characteristic in the establishment of the financial offer as a single and understandable criteria to define the winner. In addition, the decreasing variable payment to the API dependent on annual container throughput represents an effective incentive for the concessionaire to improve performance on operations at the terminal. However, the process involves critical issues form which several risks emerged. The strong differences among the financial offers show the difficulty of doing long term planning and forecasting under instable economic conditions. It is no possible to apply statistical methods because of the following:

- Mexican economy has been recently open to free international trade.
- The growth tendency of container operations was extremely fast during the years of economic stability, condition likely to change in light of the severe recession.
- Fast technological change in shipping and maritime transportation.

- New management approach in port operations.

It can be extremely difficult to define a reliable revenue stream and to establish a logic rate of return. In this case, the level of expertise and experience in doing container business in developing countries, besides deep knowledge of the economic transitions in Mexico and political environment were key to prepare not only a profitable but even rational financial offer. The API did not guarantee minimum container throughput.[95] Since this is a business based on operations, the concessionaire bears all risks. Analysis of future throughput should consider different financial scenarios, since the financial offers for the Specialized Container Terminal of Veracruz were determined in terms of revenue potential. In forecasting demand, both of the following conditions had to be considered:

- Competitive market values for services provided or demand in a freely competitive market
- Cost of providing services again under competitive conditions affected by facts such negative economic trends or unexpected reductions in international traffic.

These can be used to determine the value of the port assets to be privatized or the amount that the private investor would need to invest to obtain the expected net future flows. The variability in existence and access to capital markets, and financing instruments, also affect the cost of privatization financing and increase the complexity of defining a financial proposal.

[95] ICA "Privatizacion de Puertos", ICA 1995

Risks besides financial can be identified in the character of the concession as non exclusive. This issue exposes the contractor of the TEC to face competition for the same market at the same port. The master development program of the port of Veracruz considers construction of a new container terminal, and at this point, the capacity of the TEC would have reached its limits. In case that the TEC operator loses the bidding for the development of the new terminal, its business would be seriously threatened by the new competitors, who will have access to new infrastructure, better equipment and technology. Regarding Environmental risks, the operator of the TEC is considered fully responsible of all environmental damage caused by its operations. In addition, the ability of the national commission of competitiveness to raise port tariff regulation also represents a threat to the private investor. Intervention of the commission of competitiveness in the case of Mexico can damage the needed flexibility in tariff adjustments, placing the TEC of Veracruz in a disadvantageous position with respect to their regional competitors. This issue can also be a result of political decisions, out of the context of managing the container terminal as a business.

5.5.2 INTERNATIONAL COMPETITION SCENARIO AND PORT OF VERACRUZ REQUIREMENTS

Outstanding growth of container shipping, strongly motivated by World trade diversification, demands from port managers constant enhancement to their terminals. Construction plans to handle containers in the North American region aim to soar handling capacity, through new terminals development. Authorities of Ports currently constituted as mega hubs are not willing to lose their positions (For example Seattle-Tacoma, Long Beach, Houston), since competitors plan in some cases to double their container handling capacity (As it is doing

Vancouver port Authority). Canadian and US ports need high levels of investment directed to new construction and purchase of new equipment.[96] In the case of the port of Veracruz, investments are to be firstly directed to upgrade existing infrastructure and modernize operations and equipment. Considering construction of common port infrastructure and major maritime works, the quadrant II "flexible" strategy is convenient for existing port upgrading, since government resources are recognized insufficient to correct infrastructure weaknesses. Regarding the horizontal axis, the delivering approach is recommended to be design - build. Full advantage must be taken of the port administrative openness to package projects through effective competitive processes, enhancing best value and optimal project cost and timing.

Container infrastructure in Mexican ports should be utilized to its full potential, before terminals expansion is considered. The operations at the TEC of Veracruz are to be restructured with this purpose, through privatization. It must be taken into account that this process should be hastily carried out in order to allow Veracruz's container capacity to grow, supported by sound and rational basis. Optimal utilization of infrastructure should be achieved as soon as possible in order to boost services expansion and new terminals construction. Otherwise, the port container capacity will not be able to catch up with the development of its regional competitors: South Atlantic U.S. ports. Therefore private management should perform a fast transition from consolidation of finance and management to sustainable strategic actions towards gaining competitive advantage. Only constant enhancement of operational performance and technological improvement within a framework of aggressive business and investment strategies will enable concessionaires to divert existing transoceanic traffic to the existing ports in Mexico.

[96] Cargo Systems, February 1996 Ports and Terminals section

5.5.3 RECOMMENDATIONS ON CONTAINER OPERATIONS AT THE TERMINAL

The following recommendations on management aim to boost productivity of operations by considering the container terminal as a dynamic system. Although the concessionaire investment plan seems aggressive according to the aforementioned risks and established financial liabilities to the API, the concessionaire should always take into account that the container terminal is a system integrated by both, sea and land components.[97] The TEC is a physical link between maritime and inland modes of transportation. This system presents interaction dynamics among, several enterprises: ICAVE, API, liners, rail operators, and truckers, and each party could affect operational productivity. ICAVE should perform strong control of the linkages of the system's value chain. Besides this, improvements in one segment of the system should not lead to the creation of operational bottlenecks in others. Only in this way, the concessionaire will reduce the cost per container maximizing profit per unit. A complicated issue, is that the judged performance of the operator strongly depends on the behavior of certain variables out of its control, which were already discussed, such macroeconomic and regulatory threats. As the operator is receiving existing facilities, it is to adeptly deal with possibly existing productivity constrains that might be progressively perceived. Constraints to optimum operations could be imposed by shape and layout of the terminal, amount and type of equipment available, and the type and characteristics of the vessels using the terminals. For example, Veracruz will be unable to serve post panamax container vessels, until a new package of wharf cranes is acquired or constructed by one of the joint venture parties. Therefore, the operator is compelled to constantly

[97] Weinstein, David "A design suggestion for a futuristic container terminal" Thesis, M.S. MIT 1994; p. 16

assess the system's balance and productivity limiting factors. In the same way, the concessionaire must clearly define priorities if it is to maximize profitability and provide maximum value to the TEC's users.

5.6 TOWARDS A NEW ROLE OF THE GOVERNMENT

Undoubtedly the Mexican government will be playing a key but transformed role as privatization progresses. Although directly financed by the government, infrastructure projects in Mexico are almost always constructed by private companies. Besides the BOT roads program, the other infrastructure systems are likely to initiate privatization through operation and management concessions. The complete infrastructure privatization approach, including construction, operation and transfer will be implemented as markets are gained and the needs of infrastructure expansion emerge. Therefore, the main shift in the role of the government will be related to the operation and provision of services.[98] It will need to redefine its involvement, which must be focused on the following aspects:

5.6.1 GOVERNMENT AS OWNER OF INFRASTRUCTURE

The government must ensure that those who are not direct users of the system receive benefits (National positive impacts). The improvement of the infrastructure operation through privatization should yield benefits to the users of the system, which pay for doing so, but society

[98] Walker Charles and Smith A.J. "Privatized Infrastructure: the Build Operate Transfer approach", ASCE publications 1995; pp 14-15

also must be benefited.[99] Over and above the cost for which providers are paid directly, there are costs of pollution or environmental degradation that are endured by society. The government should pay special attention to equity issues, the extent to which the costs and benefits fall on different groups of society. It must always be reminded that although correct valuation of social costs and benefits is difficult, it is extremely important, in case compensation to some group affected by the private sector infrastructure operation is needed.

The Mexican government has failed to assume its role as infrastructure owner by allocating to itself sovereign risks, the product of political pressures that damaged society as a whole. Politics and infrastructure must be separated.

5.6.2 GOVERNMENT AS REGULATOR AND SUPPORTER OF TECHNOLOGICAL CHANGE

I discussed above the importance of adequate government regulation in the strategy necessary for attracting private investors and creating an adequate environment for privatization to have success. To the extent that regulation gives access to foreign technology and investment, economies of scale will be altered and the risk of monopoly reduced.[100] The government as a regulator must ensure that where competition is feasible it is promoted and where economies of scale exist, providers operate efficiently and respond to demand requirements. Regarding this item. However, if the government is to make economic changes sustainable, they have to be supported by technological change. Regulatory design plays a key role if this is to be achieved.

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[99] Walker Charles and Smith A.J. "Privatized Infrastructure: the Build Operate Transfer approach", ASCE publications 1995; p 234

[100] Hemming and Mansoor "Privatization and Public Enterprises" International Monetary Fund 1988; pp. 14-15

The government is to create an adequate environment and mechanisms to foster concessionaires innovation.

5.6.3 GOVERNMENT AS PROVIDER OF INVESTMENT SECURITY

The risks involved in long term operation of infrastructure can be very difficult to assess and control.[101] Risks as described earlier in this section should not be accepted by the government any longer. Rather, its role is to encourage correct assessment of the cost of project finance and operations.[102] If some level of risk is to be absorbed by the government, it should be minimized. Then, the government should charge a price that can compensate for its involvement, rather than pour out its resources. The economic conditions of the country will play an important role in these long term projects. They include risks such as changes in currency valuation and competitive conditions. Competitive bidding can result in the awarding of contracts to bidders who underestimate the risks and fail to systematically conceive the projects. The government must carefully evaluate these issues and offer reliable information before transferring risks to the private sector, but in no way should it absorb them, if society is not to be damaged. Management of risks premiums or penalties is recommended. The Mexican government must oversee for the national security by preserving necessary and indispensable rights through contractual terms, in order to ensure reasonable access to the facilities. The private operators and the government are

[101] Walker Charles and Smith A.J. "Privatized Infrastructure: the Build Operate Transfer approach", ASCE publications 1995; p 143
Tiong, Robert K.L. "BOT projects: risks and securities" Construction Management and Economics 1990, 8; p 315

[102] Walker Charles and Smith A.J. "Privatized Infrastructure: the Build Operate Transfer approach", ASCE publications 1995; pp. 236-237

to define in the actual contracts their respective responsibilities, and to eliminate political objectives to the greatest possible extent. Private promoters should carefully evaluate what the nature of their relationship with the government will be when developing their proposals. Correct assessment of the project's complexity will be key to the relationship's success.

5.7 PROPOSED STRATEGIC OBJECTIVES AND FRAMEWORK TOWARDS COMPETITIVENESS

5.7.1 STRATEGIC OBJECTIVES

The objectives of port privatization in Mexico go beyond reaching the benefits that privatized infrastructure yields. I analyzed the objectives associated with the transference of port infrastructure and services to the private sector, as a result of institutional change. However, the port system privatization must pursue other kinds of goals, which can only be achieved through the implementation of different strategies and complementary infrastructure support actions. These goals target to give to Mexico a long term competitive position in the international maritime trade, since global forces will direct enormous pressures over port systems worldwide. Only those countries whose port systems are prepared to face that will succeed. This is strongly linked to upgrade the Mexican port system according to the current technological maritime advancements to attain the strongly needed trade diversification and interchange with other world regions besides North America. The North American Free Trade Agreement (NAFTA) has increased transportation competition of land based transportation modes, specially road, with ocean transportation.[103]

[103] Hekila "NAFTA and Canadian Ports" Maritime Policy and Management, 1995 Vol. 22 No. 4; pp. 345-361

Besides increasing product handling diversification, Mexican ports should become strategic channels for introducing domestic products in the international market. Economies of scale play an overwhelming role in port and shipping competition.[104] New port privatized management and operation must be aligned with these tendencies by establishing stronger trade linkages with other world economies and commercial blocks. Port management in Mexico should direct interaction efforts to the Pacific Rim, which will conform the most important commercial center during the next decades. Privatization of ports in Mexico has to overcome single dependency tendencies by adding value to the activities provided by the them, serving as global integrating points.

In addition, there exist a valuable potential to recover traffic O/D Mexico, currently handled by North American Ports. The Port of Houston is sometimes considered as the main port of Mexico. Containers from Europe are off loaded at this port and then trucked or railed across the border to Mexico.[105] The new environment of Mexican port industry, specially regarding container services, must be committed to eliminate through effective competition the niche that US ports have carved on Mexican trades. According to the exposed in the former paragraphs, the proposed strategic objectives of port privatization in Mexico are the following:

1. Strengthen the industrialization of the country and consolidate the Mexican maritime infrastructure in order to cover the growing needs of maritime transportation originated by the Mexican commercial opening.

[104] Graham - Hughes "Containerization in the eigthies" Lloyd's of London 1985; p. 17
[105] Container Management, December 1994; p. 27

2. Increase the operative efficiency of the ports to world class levels, by creating a sustainable maritime environment in Mexico and to develop competitive and equilibrated intermodal transport in the country.

3. Achieve a competitive position in the most dynamic commercial center of the world: The Pacific Rim.

4. Be selected as a maritime trade bridge between South America and the U.S.

5. Recover the traffic O/D to Mexico handled by the North American ports.

6. Intensify introduction of Mexican products in a potentially open Cuba.

Promote appropriate coastal development and a Maritime culture in Mexico.

Future port infrastructure development must be directed to fulfill these objectives. Strategic support from infrastructure complementary actions and enhancement of intermodal transportation through intensive cargo containerization will play a key role. These strategies, once implemented in the four main ports of the country, Manzanillo, Lazaro Cardenas, Altamira and Veracruz, should be used as a base for transferring competitiveness to the whole port system. Port's business, management and human resources strategies must lead the shift in the Mexican

perspective of competitiveness: from abundance of natural resources to intensive technology incorporation and intensive investment.

Privatization of the port system in Mexico represents a great opportunity to establish productive work systems. In addition, the Mexican port industry through the implementation of the proposed strategies will channelize the national industry to foreign markets, contrary to the traditional domestic industry approach. Port privatization can be used as base for the creation of a national port technology and development of domestic technical personnel. Specialization of human resources and the creation of research institutions for the maritime industry will be key. Achievement of port competitive advantage[106] in Mexico is to be reached only if the strategic actions and the modified role of the government enable the national port industry to innovate in port operations, technology, management, finance and construction. Figure 5.5 shows the proposed strategic continuum towards real competitiveness in the Mexican port system.

5.7.2 STRATEGIC ACTIONS

5.7.2.1 INTERMODAL TRANSPORTATION AND CONTAINERIZATION

Competitive ports are technology transfer and innovation hubs. Containerization must be assisted by advanced information technology systems, equipment and operation methods. Therefore, focusing on containerized cargo operations is critical for port development in Mexico. The technological delay has been enormous. A priority is to catch up with the international

[106] Porter, Michael E. "The Competitive Advantage of Nations" Free Press 1990; p.18

changes, and private operators in Mexico must respond fiercely to containerization. The container is superior in cargo protection, security and handling characteristics at the port or inland transportation.[107] This cargo handling advantages will get the Mexican ports moving out of the traditional, technology and poor value added bulk cargo methods.

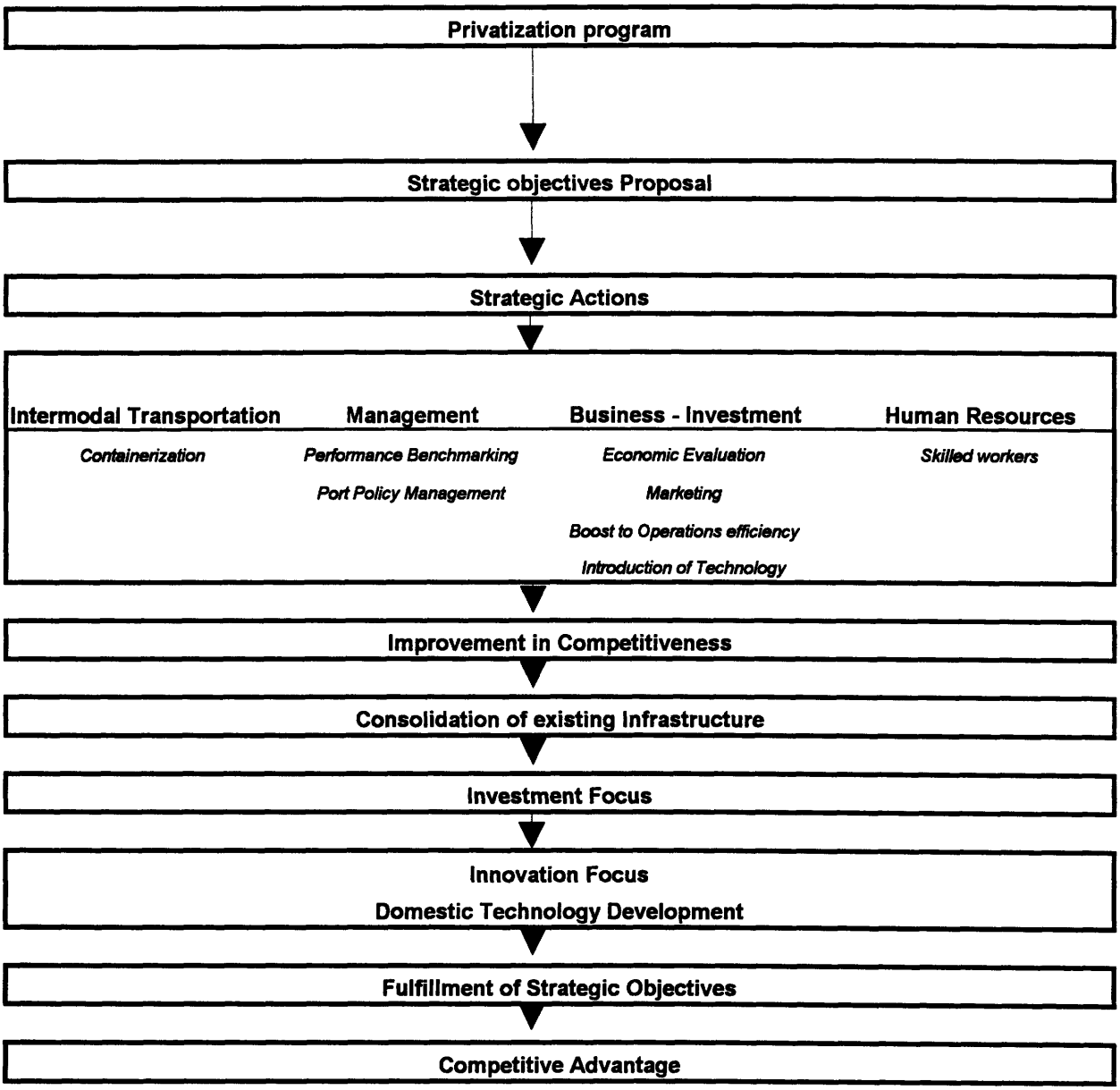
Increased containerized cargo in Mexican ports will lead to shorter cargo transit times, handling of a large number of units and additional complexity in inland movements. All of these require faster and more effective data control. Containerization brings the real potential for Technological transformation of the port system in Mexico. Containerization impacts on the different transportation modes are strongly needed in the country[108]. However, several infrastructure support actions are needed in order to incorporate containerization benefits to the overall transportation system and industry:

- Construction of intermodal centers and container distribution depots.
- Improvement in railroad and road Linkages between small ports in less developed zones.
- Upgrading and modernization of the railroad Infrastructure. The aim is to reduce containers O/D transportation time and cost, between coasts, consumer centers-ports, north border-ports.
- Further deregulation in road cargo transportation.

[107] Graham - Hughes "Containerization in the eigthies" Lloyd's of London 1985; pp. 17-19

[108] See C.F. de Castro "The role of intermodal freigth terminals in transport network planning in developing countries" Conference on ports, policy and practice, 1979 Cardiff UK. London Nautical Institute 1979; pp. 92-98

FIGURE 5.5 Mexican Ports Strategic Framework: Towards Competitiveness



Containerization introduced by the ports to supply the world's largest concentrated market, Mexico City, could boost the required demand in toll roads. With respect to the transportation services O/D Mexico City, road transportation is the main mode due to the quality of this system compared to railroad. The railroad system will require deep modifications to assembly and operate container unit transport rails, due to the predominance of infrastructure and machinery for operation and handling of bulk cargo: agriculture products, fluids and cement. Containerization is the only way to improve technology of cargo transportation in Mexico, according to international requirements.

5.7.2.2 PORT NEW MANAGEMENT STRATEGY

If higher goals and competitiveness in the Mexican port system are to be reached, the functions performed by those who participate in port activities have to match the flow and authority boundaries designed in the organizational model in order to avoid any kind of inconsistencies. This is extremely important, because the APIs bear most of the responsibility of improving the competition of Mexican ports in the North American region. APIs management should be performed with expertise looking for technological development and optimum linkages with other transportation modes. In this way, the market power of the ports will improve progressively.[109] Concession of container terminals from the APIs to top enterprises through adequate bidding will have the main effects on overall port competitiveness. Container Terminals must be the most important element in Mexican port industry. The APIs should avoid negative

[109] T.D. Heaver "The implications of increased competition in port policy and management" Maritime Policy and Management, 1995 Vol. 22 No. 2; pp. 125-134

interference of other port activities in their operations. APIs should design contracts with private operators ensuring provision of value added services focusing on performance, heightening competition among different port terminals.

The treatment of ports as part of the market system by their new management has ramifications that can be addressed at two levels: The first level is that of national port policy: before an overall national strategy is developed, terminals must learn to compete. Evolution of more competitive long terminals in the medium term will lead to an increasing relevance on public port policy to the channelize traffic among ports. At this point, implementation of an effective national port strategy by the Coordinacion general de Puertos will be needed, aiming even economic growth among zones. In addition, commercial management approach in port infrastructure is to be reflected in a drastic decrease of social port policimaking. In the second level, APIs management will be required to be innovative and responsible to the needs of shippers and other transport organizations. The consequence is that the key political decisions shift from federal to local levels in order to respond to changing market conditions. Port managers will face the new challenges of operating in a new port policy regime.[110] They have to take advantage of the incentives present in this more competitive environment to show leadership in the search for more efficient port operations. The best way to do this is to practice demanding performance benchmarking[111].

[110] T.D. Heaver "The implications of increased competition in port policy and management" Maritime Policy and Management, 1995 Vol. 22 No. 2; pp. 125-134

[111] Ashar "Comment" Maritime Policy and Management, 1995 Vol. 22 No. 4; p. 389

5.7.2.3 BUSINESS-INVESTMENT STRATEGY FOR THE MEXICAN PORTS

With introduction of private management, business perspective will drastically shift and port system in Mexico will have to define a clear mission, targeting to benefit national trade competitiveness. Concessioned terminals must implement in the short term commercialization and marketing actions, allowing them to be recognized by potential clients. The obtained feedback must provide elements to implement actions to fulfill client's needs and to keep performance standards. These efforts should be done at port individual level. Shipping liners and commercial agents should become acquainted with the new port organization and improved facilities. They also should be informed about development plans in the short, medium and long terms, along with the technical expertise, experience and business objectives of the concessionaires. They are to work in close interaction with the API in order to avoid to the maximum extent operational problems which could damage terminals' image and affect port users. A continuous operational monitoring should be performed in order to reduce any kind of inefficiencies. Constant services renewal and actualization of information and cargo handling technologies through intensive but well planned investments are key to attract clients. Port performance benchmarking with respect to other competing ports in the region area will be needed in order to ensure technological change to be motivated.

At the same time, as constant improvement of efficiency, productivity and profitability is performed, concessionaires should ensure excellence in operations by means of continuous

interchange of information and establishment of technology agreements with other ports and terminals in South Asia and South America. Operators involved in the process will not have other alternative than to incorporate cutting edge technology, improving their relationships with transportation companies and industrial corporations. They must pursue recognition of their business competitiveness and consequent share growth in traffic. Regarding markets to be targeted, the Caribbean, Central America and South America represent the highest business potential and attractiveness for the Mexican ports on the gulf coast.[112] The base for establishing them as priorities is that the trade potential with the US ports is practically defined. The internal market also represents a great opportunity, and provision to middle sized companies can begin with semispecialized services.

Investment needs can be defined according to two planned phases of redevelopment. The first phase is aimed to consolidate operations of terminals. During this phase, investments are to be allocated to the following:

- Upgrading of terminals infrastructure and fulfillment of port master program requirements.
- Rehabilitation or substitution of obsolete equipment.

After the phase of growth consolidation, the actions of the second phase should be intensive capitalization and implementation of new technologies over the created base. Then, Investments that should be performed to boost the competitiveness of the terminals are the following:

- Introduction of high performance methods of operation and logistics based on cutting edge information technology.

[112] Personal Interview, Dr. Ernst Frankel, MIT

- Introduction of computer aided terminal planning and equipment maintenance.
- Establishment of adequate information technology linkages with terminals users and shipping liners.
- Improvement on the level of handling security.
- Enhancement of commercialization and marketing actions.

5.7.2.4 HUMAN RESOURCES DEVELOPMENT STRATEGY

The new terminal operation methods and systems require careful assessment of the strengths and weaknesses of human resources. A key issue will be their adequate training and indoctrination. Evaluation of workforce capacity should include previous experience and operational skills in order to identify the training needs, according to the technical improvements that the operator is to implement. In the same way, it is necessary to identify issues that represent incentives or disincentives from the workers point of view.

Training programs should be timely planned and related and evaluated according to the business development and budget plans. In order to ensure continuity in the level of effort performed by the personnel, the employment conditions at the terminals have to be constantly evaluated. Effective implementation of strategies goes hand by hand with skilled, responsible, aggressive and professional workforce. This will be a key issue to manage if Mexican ports are to achieve the level of competitiveness demanded by the international maritime activity.

CHAPTER 6 CONCLUSIONS

1.- Three causes led to the detriment of port operations in Mexico.

Lack of equilibrium: Misconceptions on coastal development concentrated the industrial growth in the central zone of the country, which progressively increased the difficulty and cost of directing national production to international markets via ports. As a consequence, the process of industrialization in Mexico has not been fully transmitted to the coastal zones. The development of maritime technological, and managerial skills was hindered, adding complexity to the problematic of uneven territorial development. The problems of uneven growth were enhanced as the United States became Mexico's main trading partner and promoted the development of inland transportation over sea transportation.

Centralization: Centralized port administration exposed the system to inconsistent planning and policymaking which occured between government transitions. In addition, the fragmentation of port authority among several federal agencies did not allow the establishment of a strong and consistent national strategy. Under the protective approach, having the government as owner and operator of the whole port system, individual ports in Mexico did not learn to compete.

Subsidization: Government control of ports in Mexico ultimately weakened their infrastructure and performance. Subsidies and protection severely damaged ports ability to

evolve at the same rate than the international port industry. Subsidization eliminated incentives for improvement, and damaged market discipline, accountability, and consolidation of workforce. Non competitive ports have stunted Mexico to develop its full export potential, by contributing to the country's economic instability.

2.- The privatization program represents a basic and temporary solution to the problems of the system.

Port privatization in Mexico, taking into account institutional changes and transference of services, provides a temporary solution to the problems. It is just to serve as a base for the development of future sustainable competitiveness. Port privatization offers to improve management, operations efficiency and productivity, and above all an opportunity to financially consolidate the system, relieving government's public budget. These changes will cause reduction in port costs which will be reflected by improved port revenues. Decentralization and privatization of port administration will yield accountability and financial self sufficiency. Interaction between private sector and government can be used as a mean of transferring management expertise and extra momentum for port infrastructure development, adding quality to the national strategy. Since the program is directed in its first stage to privatize existing infrastructure, the operations and management learning gained in this phase will be an advantage when expansion of port infrastructure becomes necessary. Considering construction of common port infrastructure, the privatization design shows creativity in aligning revenues collected form the different concessions benefitting whole port development. Overall government participation

is to decrease. However, its rational involvement in construction financing may be neccessary in cases where fixed capital works are required to sustain competitiveness. Consolidation and the optimum use of existing infrastructure should be achieved in the shortest possible term, since added capacity is required to catch up with international competitiveness standards. Government priorities in Mexico are increasingly diffused and privatization of the port system is a useful alternative to finance the urgently required port investments and improve productivity on operations. However, the benefits resulting from well implemented privatization per se are not sufficiently powerful to deal with the challenges of world's port industry.

3.- Technological change is the main challenge for the Mexican Ports.

Port Management of technological change will be the most important problem to be addressed in the future of Mexico's port development. Technological change decisions, which are determined by economic and financial issues, should be driven rather by the timing of implementation pressures. The investments needed to upgrade the existing infrastructure in Mexico should not be lost by permitting the improvements to become rapidly obsolete: Technological progress in ports is not something to be left until the end of the economic life of infrastructure and equipment. It must become the base for continuous and progressively less expensive changes to be performed. Incentives to innovate and mechanisms to encourage the creation of domestic maritime technologies must be initiated. They need to be able to match not only international performance requirements but also national capital expenditure issues.

4.- Mexico is well positioned to take advantage of the International trends in port industry.

Economies of scale in maritime transportation are playing an important role in port and shipping competition. Cost competitiveness and high transportation reliability are determinant. Due to the technology available, existence of a nearby city is not necessary for a modern port to handle large tonnages of cargo. I believe that Mexico should take advantage of this: the international trends request construction of Mega container terminals on the Pacific coast, thus enhancing the importance of the role of the private sector and the indirect-system procurement of port infrastructure construction. The key element in developing these kind of port and terminals construction will be to optimize operations through international alliances and networks between port operators in Mexico and shipping liners in order to ensure that Mexican ports will be distribution and feeding cargo centers. I consider that a future requirement will be to increase the role of negotiation in the bidding processes in port infrastructure development in Mexico. Since bigger ships will only attend calls at Major ports, and from there containers will be distributed to minor destinations, it is extremely important that the strategic actions implemented by concessionaires reach full capacity of existing infrastructure. Terminals anticipating ships technological requirements should be constructed. Regarding this, the space available for port construction in Mexico represents an advantage to locate these meager hubs in zones out of urban congestion.

5.- Port privatization objectives must go strategic, and strategic planning will make the difference between success and failure.

The macroeconomic environment, global market forces, international trade patterns and the 21st century's sea transportation represent an enormous challenge: the privatization of ports in Mexico should be aimed to gain competitive advantage. Only if it is achieved, will the value of improvement be observed. Otherwise, the Mexican port system will remain obsolete and the risk to return the system to government control will be high. Objectives in Mexico go beyond the basic results of privatization, as it suggested in Chapter four. If these objectives are to be attained by port management, the functions performed by those who participate in port activities should be consistent with the flow and institutional boundaries designed. Port management will also be in charge of seeking new and optimal links or partnerships with other industrial and transportation sectors. The expected result is that the market value of ports in Mexico will increase. Constant services renewal, performance benchmarking and actualization of information and cargo handling technologies will be of strategic importance. Investments in upgrading existing infrastructure should progressively change from intensive investment and outsourcing and learning of updated technologies to national port industry innovation. The level in which private port construction and operation direct efforts to create demand for port services, national maritime technology and development of skilled human resources will be determinant to reduce dependency on foreign companies to improve the performance of the Mexican port system and gain competitive advantage.

Ports are in competition with one another, and the possibility to substitute one for another is extremely high. I consider adept strategic planning to be a key factor, and it must be

implemented by the private concessionaires and APIs. They will be in contact with the market, trying to align its forces for their benefit. Better ports mean more efficient international transport services, with more trading patterns, more exports and more imports. Changing international maritime technology and trade involve uncertainty and diverse conditions that will impact operational performance of ports in Mexico. Risks will emerge regarding technological and financing, business and competition issues. It will be very important to evaluate alternative strategies to define the actions able to maximize success. Strategic planning performed by the different participants in the Mexican port industry is required to promptly identify opportunities, threats, and their potential effects. In the same way, it will enhance port management discipline in the country. In the short term, strategic planning will permit the establishment of various actions to be performed, anticipating future developments. Port markets are very instable. Port strategic objectives will be assessed in the long run in terms of continued improvement of market share and competitive position within the region. Therefore, objectives of port privatization will assume a dynamic character, permitting consideration of national and external factors: competition, political and regulatory aspects, technological change, financial changes, human and labor relations international relations, availability of resources, market changes, threats of entry or exit, and organizational issues. To do this will permit asses and select the actions leading to the achievement of the highest expected value. The next step will be continuous updating and formation of programs. We Mexicans must strive to be directly benefited by port redevelopment and structural change in our country. To make this a reality, we have to be first in efficiency, responsibility and quality in port services.

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