

Port Management and Institutional Reform: 30 years of 'Theory and Practice'¹

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Global Forces Driving Port Reform

During a recent meeting of the UNCTAD *Intergovernmental Group of Experts on Ports*, port commercialization, corporatization and privatization were subjects that evoked exceptional interest, enthusiasm, but also concern among delegates.² Such discussions would have been unimaginable 20 years ago, when most governments were considering their port sector as one requiring massive public investment for port development; of strategic interest to the nation; or a service sector crucial to the *common interest*.

However, during the last decade, there has been a worldwide trend of institutional reform of the public sector. In some developed, as well as developing, countries this has taken the form of commercialization or privatization of public enterprises. In the former USSR and in the socialist countries of Eastern Europe and Asia, the overarching objective of the reforms was to transform centrally planned economies into a market economy system. Globalisation and fierce national and international competition have been the major motors of such changes.

Globalisation could be described as the increase in cross-boarder interdependences and, more profoundly, integration, which has resulted from the greater mobility of factors of production and of goods and services (Campbell, 1994; Milanovic, 2012). This increased mobility can be attributed to three major factors:

- Trade liberalization; advances in transportation; information technology; mass media; advertising; secularism; and the abolition of national frontiers have all led to a remarkable convergence of world cultures and consumption patterns, resulting in larger international markets and intensified competition. Distance no longer matters and the world is shrinking inside the frame of our computer screen.

¹ A much earlier version of this chapter appeared as: H.E. Haralambides, S. Ma and A.W. Veenstra (1997) 'World-wide Experiences of Port Reform'. In: H. Meersman and E. v.d. Voorde (eds.) *Transforming the Port and Transportation Business*. Acco, Leuven (Belgium). The original publication was based considerably on work the authors had undertaken for the United Nations (Professor Haralambides for ILO and Professor Ma for UNCTAD). All views and opinions expressed there (and consequently here) are of the author(s) only and in no way commit the United Nations or any of its Agencies. The current version is a thoroughly revised and updated chapter, including my more recent experiences as president of the Italian port of Brindisi. Readers are strongly advised not to skip the frequent footnotes which I am sure, for most, will be most elucidating! Many of the current updates are included in these footnotes but, for me, the most gratifying thing is that almost everything I was predicting 20 years ago has come true in 2013.

² I often use the three terms indiscriminately, under the overall characterization 'port reform'. Here the term is meant as the gradual retrenchment of the public sector from economic activity and the introduction of commercial principles in port management.

- Most governments are rather convinced that economic integration, promoted by the globalisation of capital markets and the virtual abolition of exchange controls in industrial countries, will lead to more efficient resource allocation and hence stimulate growth and economic development.
- The significant advances in transport and communications technologies have increased the speed and efficiency of transport and lowered the costs of communication. These developments have lowered the barriers of time and distance and give the impression of a "shrinking world" (Dicken, 1992, pp. 103-110; Oxford Economics, 2011).

In this way, globalisation and trade liberalisation, helped by the significant developments in transport, logistics and communication technologies, have drastically weakened the link between manufacturing and the location of the factors of production; they have expanded markets for goods and services; and have led to a most noticeable shift in manufacturing activities towards countries with a comparative advantage. As an example, as early as the 1980s, more than half of the employees of Sweden's 30 largest manufacturing companies (ranked by employment) were working in foreign subsidiaries. At the same time, the internet has reduced long distance communication costs to almost nil. This, together with the liberalisation of communications networks, and their simultaneous use by telephone, television and computer companies, has undoubtedly brought about changes in societal structures as radical and unpredictable now as the Manhattan and Hong Kong skylines would have been to Thomas Edison when the discovery of electricity made possible the use of the elevator.

The need for reform in developing countries' economies is as much the result of their own precarious economic and social situation as of the fact that -without having been adequately prepared- developing countries have been exposed to the relentless forces of globalisation and intensified international competition. This exposure has been taking place simultaneously with the opening-up of their internal markets, so that they could take advantage of the recent developments in the liberalisation of international trade, particularly of the many favourable "developing country provisions" of the GATT/WTO. Most developing countries are now well aware of the tremendous potential benefits from the opening-up of their internal markets and the liberalisation of their external trade.³ These benefits are, of course, the result of their comparative advantage, due to their still low-basis growth in industrialisation (and thus their potential of achieving significant economies of scale) and their inexpensive labour force.

Apart from the rather obvious direct benefits from an export-led growth strategy, trade liberalisation and the opening of internal markets is also helping developing countries to acquire all the necessary technology, know-how and foreign expertise that, together with the subsequent

³ And, 20 years later (2012), they have been proven right. On the contrary, the western world has been losing out in this zero sum game; as it has proven to be after all. Our initial enthusiasm with globalization and trade liberalization was based on a false premise: i.e. that our saturated economies and increasing returns to scale industries could only survive if and only if we could expand the international market for our exports. Unfortunately, this didn't happen. Instead of producing 'here' and exporting 'there', Foreign Direct Investment (FDI) started to flow 'there', producing 'there' and, often, re-importing back to Europe. Profits of European multinational companies have not been repatriated in a way that would allow us to sustain our welfare systems and way of life, developed over decades with the taxes of our fathers and forefathers. These systems are now being unraveled in the pursuit of the Holy Grail of cost competitiveness, and as a result of a 'cheap consumerism' that is signing the death certificate of, at least, Europe. The bad news is that these trends are not reversible any more.

increased levels of Foreign Direct Investment (FDI), would allow them to accelerate the process of their economic development.

In many cases, a dynamic growth strategy, based on liberalisation and economic reform, is providing solutions to the severe problems of overpopulation which plague the economic and natural environment of many developing countries. Policies to promote growth and personal freedom are considered by many countries as the only safe way to curb the growth of population. As incomes and standards of living rise, fertility rates in developing countries are bound to drop, as they have already done in the industrialised world.

An export-led growth strategy, however, necessitates the adjustment of the economic, commercial and, many times, social characteristics of a nation to the business ethics and practices that are being employed in the game of international competition. In the rapidly changing world of technological innovation and of sophisticated demand requirements, the transition of many economies to market-oriented business practices, developed primarily in the capitalist world, cannot be always smooth. Furthermore, the time required for the gradual assimilation of these practices into economic and social conscience is not always available. Finally, the necessary processes of economic and social reform will be many times resisted by various *groups* who, sometimes quite justifiably, aim at safeguarding the country's environment, ethics, traditions, culture and religious values.

It has often been argued that high port and transport costs hurt developing countries' exports which are already little diversified and over-dependent on the very volatile international commodity prices. For that reason, developing countries have often refuted the principle of comparative advantage as one that leads to a worsening in their terms of trade, creates balance of payments bottlenecks and thus hinders their efforts to grow through diversification. Nowadays, there is another equally important factor that compounds this problem. This factor, or rather series of factors, consists of the complex developments in multimodal integrated transport, logistics networks and electronic data interchange.

Preferential trading relationships between North and South, inherited from colonial business practices, assume a far less important role today than they did in the past. Today, independent trading houses and multimodal transport operators have the possibility, at a keystroke, to scan the world commodity and product markets and select routes, methods of shipment and carriers in such an integrated manner that ensures quality, expediency and reliability while at the same time optimises generalised costs as well as cost-time trade-offs.

This situation makes the demand for developing countries' exports much more vulnerable now than it used to be in the past. This vulnerability is not only a function of export prices but also a function of the developing countries' ability to comply with modern business and trading practices that are not inflicted upon them in a Machiavellian way, as some could argue, but are rather consumer and technology driven and oriented.

In such an environment, any factor, however small, that can blunt a country's export competitiveness is bound to have much graver ramifications today than in the past. Governments are increasingly realising that the poor performance of their public ports and their high costs are hampering trade and the national economy. This is especially true for most countries in the stage of economic development. The proportion of port costs in the final price of traded goods varies significantly from 0.2%, for cargo of high value per ton, to over 20% for

low value cargoes. The trade structure of most developing countries shows that their export products are mainly of the latter type (low value). Although more and more developing countries enter the world market with manufactured goods, they have in fact been providing low-end products, competing through price rather than quality. Consequently, port performance plays a bigger role for them than for developed market economies.

Differences in international transport costs (including port costs) between developed and developing countries, but also among developing countries themselves, are substantial (Figure 1). Developing countries pay at least 50% more for the transport of their imports than developed countries; but even within developing countries themselves, differences are pronounced: Africa pays twice as much as Asia and Latin America for its imports.

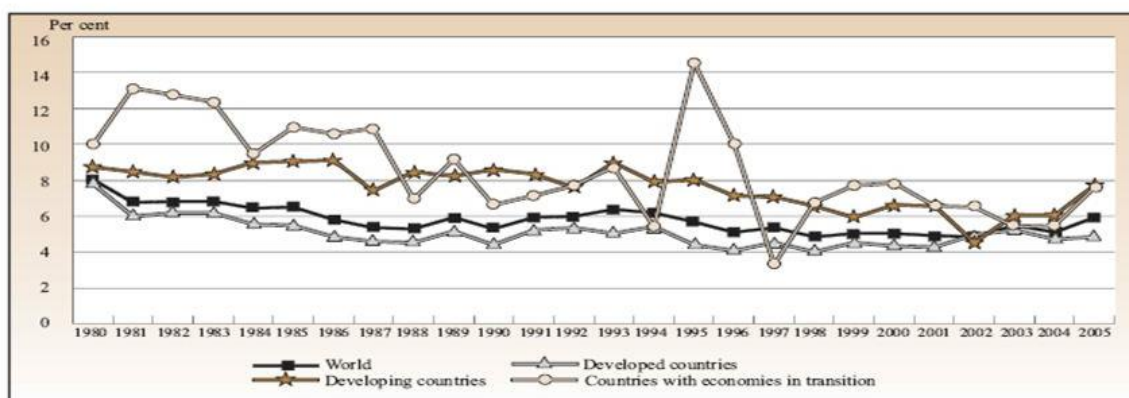


Figure 1: Freight costs as (%) of the value of imports 1980-2005 (Source: UNCTAD)

The high elasticity of the international demand for developing countries' exports and the low short-run elasticity of supply of most agricultural and mining goods they produce often leave developing countries with very slim profit margins that can be easily swallowed by increased transport and port costs. In view of the high elasticity of demand and low elasticity of supply, the *incidence* of transport costs is unfavourable to developing countries, and any transport cost increases will have to be absorbed in the FOB prices exporters are enjoying (Figure 2).

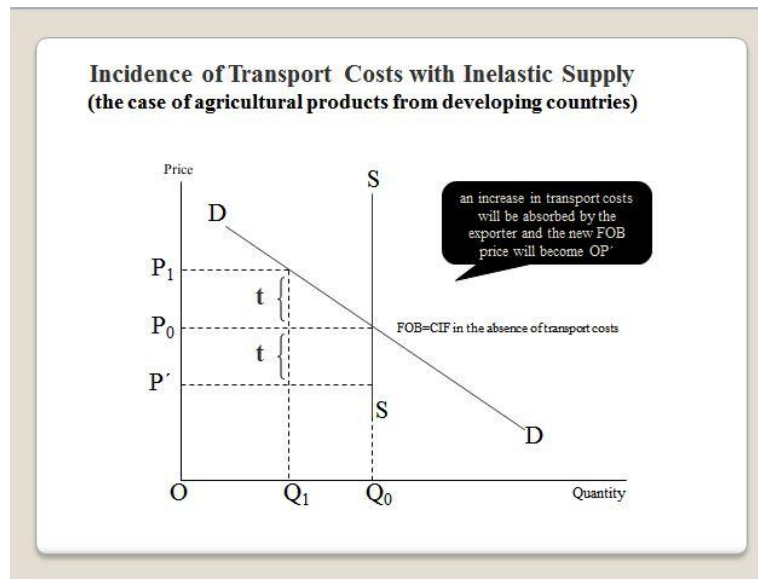


Figure 2: Incidence of transport costs

The exports of soybeans can serve as a good example. In 1991, the international FOB price for soybeans was \$230 per ton. However, loading the cargo on board a ship cost \$65 per ton in the port of a South American country, while it cost only \$20 per ton in a North American port. Although the production cost of soybeans per ton was \$165 in South America, \$30 cheaper than in North America, the result was that by selling soybeans at the international market, the South American producers made no profit at all, while their North American rivals were realising a \$15 per ton profit. Poor port services were thus not only taking profits away from the national exporters, but in fact they were squeezing the country out of the world market.

It is many times said that unitization, particularly containerisation, has *revolutionised* the transport and port industries. Such an emphatic characterisation could be quite acceptable if one considers the enormous impact this originally purely technical solution in cargo-handling methods had on the design and sizes of general cargo ships; the lay-out, equipment, development, operations and employment in ports; on inland transport requirements; land use; human skills; and shippers' perception regarding the functioning of the overall supply chain.

This system of transport had a number of significant advantages over the conventional, labour-intensive methods of handling general cargo. Apart from the remarkable improvements in port safety and the limitation of pilferage, damages and cargo claims, the system's major breakthrough -particularly in the U.S. where it was first introduced- was in cutting down on expensive labour and reducing ship turnaround time.

Due to costly, grossly ineffective and time-consuming cargo-handling methods prior to the advent of containerisation, general cargo ships were known to spend most of their operational time in ports, waiting, loading or unloading. In many instances, and whenever that was possible, shippers were trying to avoid ports and shift towards road and rail transport for long distance carriage.

Furthermore, expediency in cargo-handling was necessitated by the very same nature of general cargo goods whose increasing sophistication and value-added required fast transit times from origin to destination in order to increase shippers' turnover and minimise high pipeline- and

inventory costs. The latter costs were, thus, brought down significantly by the use of logistical concepts and methods and also by the increased reliability and accuracy of liner shipping operations that allowed manufacturing industries to adopt flexible *Just-in-Time* and *Make-to-Order* production technologies. Among a host of other benefits, these technologies enabled companies to cope with the vagaries and unpredictability of the seasonal, business and trade cycles. Many shippers in industrialised countries were, thus, more than happy to bear the increased initial costs involved in the introduction of the new transport system, given that these costs were only a fraction of the benefits enjoyed by faster transit times and the higher predictability of cargo movements.

The dramatic improvements in cargo handling operations which were brought about by the introduction of containerisation have enabled general cargo ships to spend hours or days now in ports rather than weeks or months that was customary before. The reduction of port time and the corresponding increase in time at sea have eventually led to the substitution of the previous multipurpose general cargo ships with specialised high-speed container vessels of substantially (and ever increasing) larger dimensions that can take advantage of the economies of scale afforded by the shorter port turnaround times. Port efficiency and productivity have thus been the main drivers behind the increase in containership sizes, particularly since 1988 when American President Lines introduced the post-panamax vessels (Figure 3). Up to that year, the maximum size of containerships (and of course of other types of ships) was determined by the width of the Miraflores locks of the Panama canal and it had remained constant, at around 4,400 TEU, for almost 10 years.

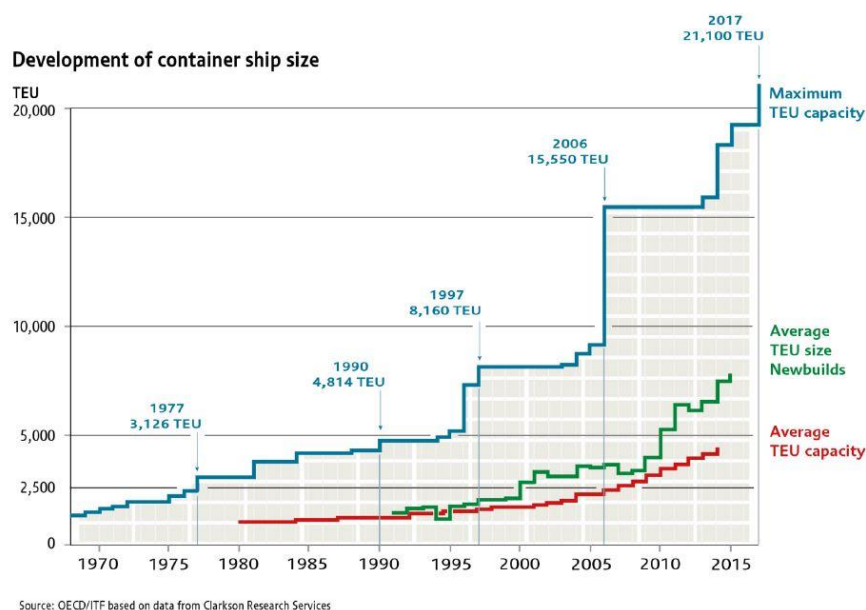


Figure 3: Developments in the maximum size of containerships

Liner shipping has thus become an extremely capital-intensive industry. Many modern deep-sea cellular containerships have capacity to carry more than 18,000 TEUs, developing speeds of about 25 knots. At today's shipbuilding prices, the construction of such a ship may well exceed 100 million USD. Already in 1972, a 3,000 TEU vessel appeared in the big consortium Europe-Far East (Couper, 1986) and during the same year the world's container port league enlisted 82 main ports in the starting phases of the race towards container traffic growth (Beplat, 1989). In less than 30 years since the introduction of the first post-panamax containership, ship sizes have

more than quadrupled while, as a result of competition in shipbuilding and the emergence of new shipbuilding countries (Korea and China), the construction cost of such a ship is not much different than the construction cost of a Panamax ship (4,800 TEU) 20 years earlier (1996).

However economically justified investments in containerisation might have been in the industrialised countries facing the north Atlantic and Pacific oceans (where the bulk of general cargo traffic is concentrated), some developing countries have reacted to the necessity of this type of investments with varying degrees of scepticism. Their legitimate worries concerned the suitability of capital-intensive techniques in countries with abundant and inexpensive labour, their lack of financial resources together with other pressing investment priorities in the country, and also the fact that the vast majority of their exports (primarily raw materials and agricultural produce) were not "containerisable".

Furthermore, the capital-intensive nature of liner shipping and the consequent "operational arrangements" within this industry, in the form of consortia and similar types of co-operation, frustrated many developing countries' plans to get actively involved in liner shipping, despite their cargo-sharing entitlements secured mainly through the provisions of the UNCTAD Code of Conduct of Liner Conferences.⁴ For many developing countries, the result of this situation was that they were often seen to be played off against each other by major liner operators who had been convincingly arguing that if adequate port investments in container-handling facilities and equipment were not timely made, ports would be by-passed by major lines and thus become *backwaters*.

In many cases, this argument was driven home very successfully for a number of reasons:

- No developing country would fail to see the importance of efficient national ports as facilitators to trade and as crucial elements in their process of economic development.
- The increase in sizes, sophistication and capital-intensity of modern containerships in deep-sea liner trades, has limited the number of ports-of-call to only a selected few transshipment ports or *load centres*. These very important ports have become the *foci* of international shipping, and goods are moved by land (road and rail) and water (barge) from inland centres and feeder ports to these global hubs (Slack *et al.*, 1994).
- Many developing countries have, thus, taken up the challenge to develop their ports, hopefully into load centres, under keen competition with other regional ports having similar aspirations. These decisions were taken not only because of fear that ports would be by-passed if they did not do so, but also on the grounds of some other more proactive considerations.
- It was thus thought that the development of container-handling facilities in excess of national traffic demand requirements might have the positive spin-off effects of an *unbalanced growth* approach to development. According to this, basic infrastructural facilities (such as ports) are built up far ahead of existing demand, on the part of the

⁴ The United Nations Conference of Plenipotentiaries on a Code of Conduct for Liner Conferences, better known as the UNCTAD Code, came into force in October 1983. The Code, result of political pressure on the side of developing countries, was nothing more than a protectionist cargo-sharing arrangement, on the basis of the infamous 40-40-20 formula, whereby trade was reserved for the ships of the two trading nations, leaving only a 20% open to the ships of third countries. The United States never ratified the Convention, whereas the European Union did so reluctantly and conditionally on the basis of the Brussels Package. In sort, the latter ensured that the restrictions of the Code did not apply among EU member states as well as between them and other OECD countries.

industry, agriculture and commerce, in the hope that the latter activities will expand by the wake of the former (Rosenstein-Rodan, 1943).

- Apart from considerations of trade facilitation, a number of countries, particularly in Asia, saw port containerisation as an export industry in its own right. It was, thus, considered that, additionally to their direct financial benefits, the export of transshipment services to neighbouring countries would enable ports to grow and achieve significant economies of scale (not otherwise warranted by the country's limited domestic traffic) that would finally benefit the country's external trade itself.
- Finally, transshipment traffic would allow the development of feeder service networks for the regional distribution of containers and this would enable the country in question to get profitably involved in shipping (at least the short-sea type of) and value-added distribution activities that would otherwise be lost to competing regional ports. Feeder services and inland transport and distribution possibilities were major considerations by countries seriously contemplating investment in containerisation. This was so, given that most countries were realising that if such possibilities did not exist, the likelihood of them being selected as major “hubs” would be rather thin, no matter how efficiently they might like to develop and run their ports.

Public Involvement in the Port Industry

Public involvement in ports, usually through a statutory body known as *Port Authority*, can take various forms, ranging from the mere ownership and leasing of port land and basic infrastructure (landlord ports), to the provision of all port-related services, notably cargo-handling (service ports or comprehensive ports).

In the research I carried out for the International Labour Organisation (ILO, 1995) on the reforms taking place in the world port industry, it came out that in most ports around the world, wet areas (63%) and quays (76%) were in public ownership without competition, while the operation of quays was fairly evenly distributed between the public and the private sector.

Table 1: Ownership and control of ports

	Public, no Competition %	Public, Competition %	Private, no Competition %	Private, Competition %	Mixed %	Other %
Infrastructure						
• Quays						
· Ownership	63	9	7	1	12	8
· Operation	32	8	8	20	23	9
• Wet area						
· Ownership	76	5	7	-	1	11
· Operation	55	4	7	8	8	18
Superstructure/equipment						
• Container cranes						
· Ownership	28	5	7	24	13	23
· Operation	24	4	9	28	12	23
• Container equipment						
· Ownership	28	4	9	33	9	17
· Operation	23	4	11	36	12	14
• Bulk equipment						
· Ownership	19	4	11	31	20	15
· Operation	16	3	12	35	17	17
• Sheds and warehouses						
· Ownership	44	7	4	8	31	6
· Operation	24	5	7	21	35	8
Facilities and services						
• Pilotage	52	3	28	11	1	5
• Towage	29	4	20	31	4	12
• Mooring	35	3	23	29	5	5
• Ship-repair	7	5	8	51	11	18
• Bunkering	13	3	7	60	4	13
• Adm. Services	44	4	4	19	17	12
• Other services	31	5	5	20	27	12

Source: ILO (1995)

Often, State intervention in port authorities may involve port strategy; management and operations; but the State can also intervene in more indirect ways, e.g., by coordinating port development, financing investments, or determining the port's regulatory framework.

Table 2 affords some insight into the methods of controlling port authorities used by governments. As can be seen, "budgets" and "investment plans" are the most common means of control. In South East Asia, governments often resort to "expense reports", while profit targets are also in use. Profit targets are not used, to a noticeable extent, in Latin and Central America. Several reasons can be put forward for the public sector's involvement in ports:

Table 2: Government control of port authorities

	Global (%)	Europe (%)	South and Central America (%)	South East Asia (%)
Expense reports	32	32	25	55
Budgets	47	47	37	50
Profit targets	28	21	-	40
Investment plans	44	37	12	45
Others	8	5	12	10

Source: ILO

(Percentages do not tally due to multiple answers)

Military protection

Many major seaports are located close to national borders and are especially vulnerable to attacks from the sea. In older times most ports were thus military protected areas. Even nowadays, a number of commercial ports around the world still dedicate a part of their infrastructure to naval bases.

Expropriation of Sites

In many cases, ports have to extend into the water where, usually, there is no provision for the expropriation of sites. In most countries, people can acquire legal rights to territory or land and can subsequently exclude others from their use. This is never the case for water or aquatory, the more so when most countries recognise a general *right of passage*, or free navigation, to which unauthorized port structures could be considered as obstructions (Goss, 1993).

Economic Protection

As major ports are usually *gates* to international trade, they may afford governments a convenient means to implement import restricting policies, aimed at protecting domestic markets. Import restrictions can be effected by the erection of tariff and/or non-tariff barriers. The latter can take many forms and are usually more difficult to detect and quantify. High port tariffs, long turnaround times and inefficient ports in general could be seen as constituting effective non-tariff barriers to trade. It has sometimes been argued that import-competing domestic producers have strong vested interests in the continuing existence of inefficient ports,

as this offers them effective protection. These producers could also be effective lobbyists and influential members of pressure groups that resist port reform.⁵

Natural monopoly

Ports are often referred to as the classic example of the so-called *natural monopoly* case, in which possible market failures can justify government intervention (Baumol, 1977; Shirley *et al.*, 1991; Mosca, 2008). Under certain conditions (a given level of demand, cost structures and technological factors), a market with two or more firms can produce sub-optimal economic outcomes (for example a certain port may be too small to have two tug operators), whereas a single firm might produce the required output more efficiently. For this reason, governments may, at times, decide to move away from a multi-firm competitive environment, towards a monopolistic, albeit regulated, situation. This can be achieved by explicit legislation, allowing only one operator; by discriminatory subsidies, finally resulting in the withdrawal of potential competitors; or, finally, by turning a blind eye to the restrictive business practices of incumbent operators.

Public Goods

Among the many functions of public port authorities, whether (semi)autonomous or centralized, is the provision and maintenance of the port's basic infrastructure, such as breakwaters, approach channels, turning basins, rail/road connections within the port and navigational aids. Apart from the general public's interest in the safety of ports, many of the port services can clearly be considered as falling within the domain of *public goods*, in the sense that no particular user can be excluded from their use if he is not agreeable to share in the cost of their production; a situation often referred to as *the free rider problem*. Furthermore, services such as those provided by, say, breakwaters and navigational aids can be considered as *collective consumption goods* (Shoup, 1969) in which case, and up to a point, the total cost of producing them does not vary in relation to the number of their consumers. Finally, a number of port services can be considered as *non-rival in consumption* (Musgrave, 1969), given that user A's demand does not reduce (compete) that of user B. Those port services that qualify as "public goods" ought to be provided by some public authority, although *provision* should not be confused with *production*: the latter could be entrusted either to the public or to the private sector, depending on considerations of economic efficiency. This is notably the case of the nautical-technical services (towage; pilotage; line-handling), which are increasingly brought in the ambit of the private sector, albeit under strict regulatory control.

⁵ During my brief spell as president of the Italian port of Brindisi, I had the opportunity to witness first hand another type of resistance to reform. In the supervisory bodies of port-stakeholders, known as port committees (Comitato Portuale), sat such persons as representatives of shipping agents; shipowners; port operators, etc., i.e. 'clients' of the port who often had not only a conflict of interest between their supervisory role and that of a port client, but also every interest in maintaining the *status quo*, which was affording them effective protection from outside competition. As the *red line* between 'supervision' and 'management' is not always as clear-cut in Italy (and of course in other countries of the European south) as it is in northern Europe, this situation often frustrated my decisions, bringing them to a grinding halt, to the detriment of the general interests of the City and of the wider port community these stakeholders were supposed to safeguard. Two cases are typical and I would be amiss not to mention them here. When I brought Grimaldi Lines to Brindisi (by far Europe's biggest short-sea-shipping and multimodal operator), certain local agents of competitor lines mounted a war against the newcomer, lobbying travelers not to use Grimaldi ships because he would eventually monopolize the traffic [...] and this would result in higher ticket prices in the future! When I decided to develop the cruise business in the port, tendering a beautiful berth overlooking our magnificent medieval castle (Castello Alfonsino), a local cruise agent (and member of the port committee) went live on television, expressing his concerns [sic] about the health [...] of our American and Canadian visitors, who would disembark in the vicinity of a coal berth!

Financing

The rapidly changing cargo-handling technologies; the increase in the size of modern container vessels; the limitation in the number of direct port calls - coupled with the expansion of main-line/feeder networks -; and the growth of international trade have resulted in numerous port expansion/modernization programmes, generally requiring substantial capital outlays and invariably leading to regional over-capacity. Regional port competition and the need of ports to turn ships around as quickly as possible is an additional contributing factor to regional port overcapacity (Haralambides, 2002).

These investments often exceed the financial capabilities of the public sector thus making the case for private sector involvement; a development that would make sense anyway, given that, increasingly, ports, particularly container terminals, are losing the *public good* character, becoming private goods, whose services ought in principle to be paid by their user.

However, often, in spite of its abundant financial resources, particularly those of global terminal operators (GTO),⁶ the private sector may be reluctant to invest in ports, particularly when capital outlays have to be made in uncertain institutional and regulatory frameworks, or through usually frontloaded agreements (concession contracts) that cannot guarantee positive financial returns in the longer term. On the other hand, as government objectives usually extend beyond considerations of short-term financial profitability and towards the maximization of long-term *economic welfare*, a number of port development projects that might be deemed unprofitable by the private sector can be of cardinal importance to the government. Thus, the success of any public-private partnership (PPP) is in being able to strike the right balance between the two. In other words, affording the private sector an acceptable return on investment (RoI), on an opportunity cost basis – i.e. a return as good as that of the investor's second best investment-, while keeping the bulk of the generated *economic rent*⁷ in the hands of the public sector.

National/regional economic development

In addition to their main functions as interface, storage and distribution points, efficient ports also function as growth poles, attracting new activities and stimulating trade (Rimmer, 1984; Haralambides, 2012). In this way, and apart for their obvious direct contribution to GDP growth and regional development, the indirect contribution of ports to the economy is also substantial, given their importance for the competitiveness of the country's export industries. State intervention is thus often justified on the grounds of these "not solely commercial" objectives of ports. The costs of such *macroeconomic* objectives of the State, however, often manifested in departures from economic efficiency in a strict sense, ought to be borne by the State itself, and it would be unrealistic to expect private investors (only interested in RoI) to share in them. Again, if private investment is deemed desirable, concession contracts should be drafted in such a way so as to strike a balance between public *welfare* objectives and private *profitability* ones.

For instance in Japan, apart from the direct financial returns of port operations, port development is appraised on the basis of its contribution to the social and economic development of the region and the nation. Port development plans (master plans) are thus adjusted to and included in the country's regional development plans, while ports are managed and administered

⁶ Such as Hutchinson Port Holdings (HPH); PSA; DP World; APM Terminals; ICTSI.

⁷ It should not be forgotten that, in spite of intra-port competition, a port will always have a 'captive audience', and thus a significant market power.

by public sector bodies (Ports and Harbours Bureau of Japan, Ministry of Transport, 1993; p.13). Among other advantages, this approach helps in rationalising port investment; avoids duplication and the wastage of scarce resources, due to excessive competition in an industry predominantly described by *sunk costs* and, finally, it helps in optimising the *spatial* aspects of port investments, so that they can tie-in meaningfully with the rest of the country's infrastructure.

However, as I argue below, the influence of this *statist* approach to port management is fading out today in most parts of the world. Its problem is in *limiting* port management *autonomy* at a time when ports are expected to become new-business developers and compete for traffic internationally. This new role of ports, and related governance models, is finding strong support at least in Europe (ESPO, 2010), *vis à vis* earlier (public) port governance models that tended to limit the functions of a port authority to those of the harbour master's office.⁸

The realization of indirect *macroeconomic* objectives may indeed generate numerous benefits for the region or the country by and large, but these do not necessarily produce visible financial rewards for the ports concerned. Thus, the efficiency and productivity of the latter might, at first sight, be considered as disappointing and inferior to that of comparable privately owned enterprises with clear-cut financial objectives (e.g. UK ports), or compared to ports which have been *centrally prioritized* on the basis of macroeconomic objectives. Moreover, such a 'central' prioritization is not void of strong resistance by local communities, whenever the fortunes of one (prioritized) port are at the cost of another. Few would argue against the benefits from looking at ports as a 'port system'; these have been described above, in the case of Japan. But the objectives of such a *regional* approach to port development are to enhance regional cohesion, thus leading to a more balanced development across the region. Thus, together with prioritization, a system ought to be found, and agreed upon, to distribute the fruits of this *planning* policy, as equitably as possible, also among the 'unlucky' ports, their cities and citizens. Otherwise, local political opposition could be so strong as to frustrate any *central* attempt to 'allocate roles'.⁹

Finally, a *statist* approach to port management reduces port authorities to mere administrators and if this is the objective of the State then it should be spelled out clearly in the relevant port laws, rather than expecting ports to function under commercial management principles, often with financial targets imposed on them. There is no worse thing than *responsibility without authority*, and governments, as well as public organisations, fortunately start to realize that *you can't have your cake and eat it too*.

⁸ I hope the exaggeration of the witticism would help in driving the point home.

⁹ My 'Brindisi experiences' could help, here too, in order to drive this point home. It seems that due to some 'unwritten law', going back for decades, Brindisi -maybe one of the most backward cities in Europe- has been condemned to the handling of coal, also with cargo-handling and inland transportation techniques which have a lot to be desired, compared to modern cargo-handling; storage; and coal distribution practices. The environmental impacts from the (improper) handling of coal are only too well known to be repeated here. As a result, the citizenry is constantly expressing strong concerns, often quite vociferously. At the same time, the more 'sexy' types of port traffic, such as cruise and ferry, have moved almost exclusively to its new competitor, the port of Bari, located just 100 kilometers to the north, and the seat of the regional government. Thus, for decades, the port of Brindisi has been in a state of heart-breaking decay. As soon as I moved in, I made it clear to all that Brindisi was *open to business*. The first big success came with the arrival of Grimaldi Lines. Soon after this, I was 'summoned' to the regional headquarters in Bari for a "meeting". The punch line of that meeting was *to tell me* that I should be 'careful' with my decisions and with talking to shipowners, for Bari was living from its port and they were not as lucky [sic] as Brindisi to have so much coal! [sic].

Government Retrenchment and Major Issues of Concern in the Port Industry

Government Retrenchment

It is sometimes argued that policies of public sector retrenchment, together with the encouragement of more private sector initiatives, are rooted in ideological origins. However, regardless of how true this opinion may have been in the past, current economic and political developments worldwide can no longer support its validity. Instead, the reasons for explaining the widespread popularity of the various divestiture programmes are to be found, among others, in the increasing economic interdependency among nations and the trend towards the globalisation of all forms of economic activity.

Regardless of ideological postures and doctrines, an increasing number of governments (and ordinary citizens) realise that it is no longer possible to isolate their economies, or insulate them from external economic influences and shocks. Even if this was still possible, such a policy's effectiveness towards increasing growth and industrialisation would be more than doubtful, at least today.

In many countries, governments have become painfully aware of the inadequacy of their state owned enterprises (SOE) in an environment of increasing international interdependence and global competition. Market-oriented policies are thus becoming more and more popular in order to reap the benefits of higher efficiency and productivity, and to reduce the financial and administrative burden SOEs often impose on their owner, the State.

High levels of staffing,¹⁰ together with the absence of risk in economic activity; the lack of accountability for economic performance (staff assessments); the impersonality of operational structures; and a missing sense of belonging and achievement can very effectively remove employees' natural drive for initiative, innovation and higher efficiency, consequently resulting in very low (and sometimes even negative) labour productivity. The low productivity of the public sector is one of the major driving forces behind the various divestiture programmes throughout the world.

However, in the case of ports in particular, it would be fundamentally wrong to believe that the above are the only factors accounting for the low labour productivity of the public sector. Comparisons between different countries or between different sectors of the same Economy should, therefore, be contemplated with extreme care. Labour productivity ought not to be measured only as "output per man/hour" or "tonnes handled per gang-shift", as it is sometimes the practice in many ports, but as *output per man/hour produced with a certain stock of fixed capital of a given technology and operational characteristics*. Thus, differences in labour productivity between the private and the public sector could be explained equally well by the fact that the level of fixed capital investment in the latter sector is frequently inadequate or obsolete, due to scarcity of financial resources, budgetary constraints and the economic priorities of the government.

¹⁰ If one is unfortunate enough to have to find his way through the corridors of a government ministry, somewhere in Spain, Portugal, Italy or Greece, he couldn't fail to notice filing cabinets placed in corridors, often against fire-fighting regulations, so that more space is created inside the offices to accommodate an increasing number of seemingly working people.

Notwithstanding this, employment in most state-owned ports, and to that effect in the wider public sector by and large, is usually characterised by high levels of staffing.¹¹ Many times, this is not only the result of the government's employment creation policy -particularly in developing countries with rapidly growing populations and an anaemic private sector- but also of the fact that, through its permanency of employment, fringe benefits and stability of income, employment in the public sector is often an ardously sought after objective, many times pursued through systems of 'political clientelism'.

However, large scale employment in the public sector creates inelastic government expenditures, it increases the Public Sector's Borrowing Requirements (PSBR) and it may lead to inflation and high interest rates. In their turn, the latter can hinder the private (domestic and foreign) sector's propensity to invest and subsequently result in less output, employment and growth. Additionally, inelastic government expenditures can reduce the effectiveness of fiscal policy as a tool of economic stabilisation. The latter (at least nowadays) is almost invariably a pre-condition for the successful implementation of structural adjustment programmes and often the reason for the divestiture plans of the government.

Management Issues

The capital intensity of liner shipping and the need for maximum capacity utilisation and fast turnaround times, in order to achieve adequate rates of return on investment, have increased pressures on ports for further improvements in labour productivity and operational efficiency. In its efforts to adjust to the new demand requirements, the port industry has also become a capital-intensive one, requiring massive investments in port infrastructure and sophisticated cargo-handling equipment. In this way, containerisation and the cargo-handling techniques it induced have had an equally profound impact on port employment. As with all other capital-intensive innovations, containerisation substituted capital for labour and thus resulted in substantial redundancies, accompanied however by remarkable increases in labour productivity (Figure 4).

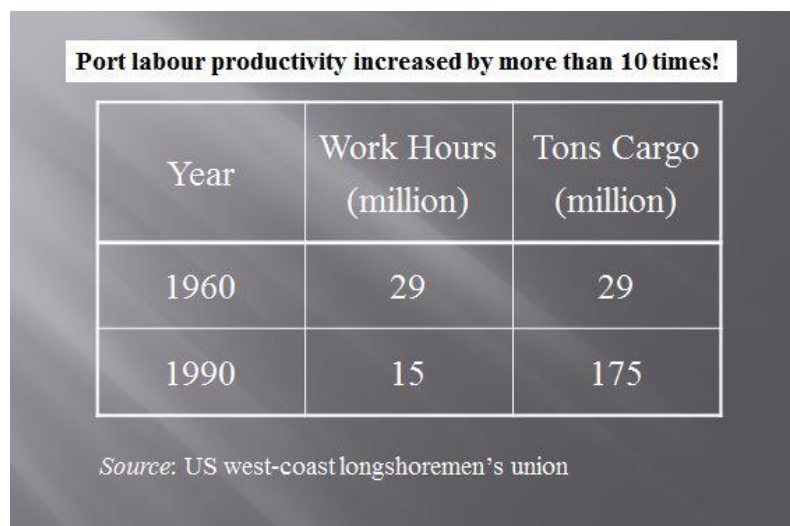


Figure 4: Port work-hours and tons handled in the US west coast

¹¹ I witnessed with my own eyes, at a major port of a certain Asian country, 10 dockers washing a container, all holding on to the same water hose! Let it be noted too that they were casual workers, while the registered ones were watching them from the bridge, blissfully smoking their cigarettes.

However, port performance and labour productivity measures obtained from various ports around the world still demonstrate substantial differences from one port to another, even within the same region. With regard to container traffic, for example, container-handling productivity among western European ports in 1991 varied from 30 moves per hour/crane down to 14 moves per hour/crane. In an Asian port in 1992, 458 containers were handled in 3 hours and 15 minutes to and from a containership and the vessel stayed at berth for less than half a day, while in another port in the same region, to handle the same number of containers the ship had to spend 2 to 3 days in port. The gap in labour productivity between ports can also be substantial. In a major far-eastern port in 1992, about 200 million tons of cargo were handled with a total of 7,200 employees, while in another port of a developing country in the same region, 52,000 people were employed for a total throughput of about 150 million tons of cargo.¹²

High costs, poor services and low efficiency and productivity appear however to be only the symptoms of the problem. An UNCTAD survey carried out in four African countries (Ivory Coast, Ethiopia, Kenya and Senegal) showed that port problems were not of a technical nature and that investment in modern port facilities had been universally good; apart from minor omissions, there were no cases of serious infrastructure defects.

It was thus evidenced that although many ports are in possession of the right infrastructure and necessary equipment, what they lack is effective management, or modern management know-how. In many instances, basic management principles such as those of clear description of objectives and area of authority and responsibility; accountability and control; adequate rules and regulations; good statistical and information systems; financial accounting and cost control; quality control; human resource development; etc., appear to be amiss.¹³

Yet, the management ability of port managers, including those in developing countries, should not be underestimated. A cursory look into the management techniques of most ports today will immediately show that the above mentioned managerial skills are rather well known to most port managers and many of them have already been in place. Modern port management knowledge has in fact been well spread in many developing countries through various training activities during the last decades, and it is not uncommon today to find many port managers in developing countries that have been trained abroad in modern management techniques. In many ports, the problem seems not to be the lack of modern management techniques, but rather the lack of their effective implementation. Managerial measures do not thus touch the root of the problem which, in most cases, seems to be institutional.

More often than not, the interface between the government and the port is too heavy. As a result of unnecessary bureaucracy and state intervention, ports have many times been prevented from

¹² Comparisons of labour productivity should however be attempted with utmost caution. Labour productivity is a function of the existing capital equipment and if the latter is inferior or obsolete, as it often is in developing countries, labour can produce *only that much* with it.

¹³ As soon as I moved in at Brindisi, the standard question each and every staff member of the port authority asked me was *could you please tell me what is my job?* People were being reallocated from one department to the other without notice or motivation, at the spur of a moment; the port's statistical information system was run, quite independently and without any control, by an external private company; quality control was an unknown concept; and a human resources officer didn't exist. Immediately, I started a process of internal reorganization, including a system of staff assessments. Interestingly, it was the very same persons who asked me to define their job that fought the most against staff assessments!

carrying out their management streamlining efforts, as well as react to the needs of the market. Furthermore, the lack of competition often results in a negative service attitude within the port. Because of the "soft budget constraint" and the frequent low interest government loans or subsidies, the "opportunity cost of capital" is a principle virtually unknown to many port managers. This may explain why *cost control* is often a low ranked priority in many public ports. Besides, port tariffs are often state-controlled and do not correspond to market prices, something that affects adversely the management's motivation to seek cost reductions.

Thus, investments are not always made in time and when they do they are not market-oriented or cost-effective. Decision makers may be more responsible for political or administrative priorities rather than commercial ones. The difficulties connected with the quality of port decision-making are often due to the excessive distance between the place where the problem arises and the place where the solution is worked out. Centralised public port administrators rarely make decisions without consultation at a ministerial level and they often have a very relaxed attitude regarding commercial matters.¹⁴ In the UNCTAD study mentioned above, it was shown that good intentions to improve port performance had, in most cases, run into problems of implementation or were over-laden with subsequent controls¹⁵ combined with a distinctive unwillingness of the middle ranks of central government to delegate authority.

Labour Issues

In the earlier days (up to the beginning of the 1960s) *general cargo*, carried by liner shipping, was transported, in various forms of packaging (pallets, boxes, barrels, crates, slings), by relatively small vessels, known as general cargo ships. These were twin-deckers and multi-deckers, i.e. ships with holds (cargo compartments) in a shelf-like arrangement where goods were stowed in small pre-packaged consignments (parcels) according to destination (Figure 5). This was a very labour-intensive process and, often, ships were known to spend most of their productive time in port, waiting to load or discharge. And although seafaring was great fun in these days [sic], the same cannot be said for *casual* port work which was rather ill-considered and looked down by society.¹⁶ Also, congestion was a chronic problem in most ports, raising the cost of transport and hindering the development of trade. Equally importantly, such delays in ports made ship arrivals (and consequently port work) erratic and unpredictable,¹⁷ obliging manufacturers, wholesalers and retailers to keep large stocks. As a consequence, warehousing and carrying costs were adding up to the cost of transport, making final goods more expensive and, again, hindering the development of international trade.

¹⁴ All of my predecessors at Brindisi were quite versed in finding their way to the right ministerial office, or pick up the phone and call the Minister, but they wouldn't speak a word of English. A *marketing and communications* department did not exist at the port authority at the time I stepped in.

¹⁵ The construction of the new passenger terminal of Brindisi was delayed for months because the director of the regional branch of the Ministry of Cultural Heritage thought that the logo design on the roof of the terminal was a bit too high [sic] and this would spoil the historical landscape view of Brindisi! The local landscape architects objected too albeit for a different reason. Forty years ago, in the area of the intended terminal, nowadays right in the middle of the port, there used to be a beach and, thus, they thought we should keep it this way notwithstanding the fact that, today, no one would even dream of swimming there even if one could!

¹⁶ Given the unpredictability of port work, port management could not possibly employ permanent staff, having them idle and waiting for a ship to arrive. Labour was thus *casual*, i.e. employed for as long; as much; and whenever required. Recruitment was very different too. Each morning, a number of labourers would show up to a forman waiting at the gate and he, on the basis of certain 'criteria' that had more to do with *natural selection* than anything else, would thumb-in the youngest and the strongest. The rest would return to their 'locales' [sic] to indulge in whatever it was they were indulging in.

¹⁷ Delays in one port propagate onto others with a cascading effect.

Containerisation and the introduction of the new cargo-handling techniques in ports have changed all this. Around the world, the port industry has invested a lot in order to cope with the new technological requirements. Modern container terminals –and corresponding cargo-handling equipment- have been built and new, more efficient, organisational forms (including privatisation) have been adopted in an effort to speed up port operations. Operational practices have been streamlined; the element of uncertainty in cargo flows largely removed; forward planning has been facilitated; port labour regularised; and customs procedures simplified. These developments took place under the firm understanding of governments and local authorities that ports, now, constitute the most important link (node) in the overall door-to-door supply chain and thus inefficiencies (bottlenecks) in the port sector can easily wither all benefits derived from economies of scale in liner shipping and in global supply chain management.

As said, the above developments, notably the predictability of ship arrivals and of port work – and consequently of port labour requirements-, have provided an important stimulus for the registration of port workers.



Figure 5: Multipurpose vessels

Moreover, the capital intensity of the new technologies, together with carriers' ability to now plan a reliable shipping network, have resulted in a need for more intensive port capacity utilisation. This has been achieved mainly through the extension of working hours, which in many ports was done through the introduction of shifts. As the new technology required also a skilled workforce, the need for the regularisation of employment relations was apparent, as there was no way casual labour could provide the adequate, responsible and skilled manpower, necessary to move cargo safely and efficiently through a modern port using advanced equipment (Couper, 1986, p. 53). Regularisation of employment, finally, provided casual workers with some form of guaranteed employment or income and it was thus strongly supported by trade unions, who often made it an explicit objective in their negotiations concerning the social impacts of the introduction of the new cargo-handling methods.

The necessary adjustment of manning levels, however, has often been prevented or delayed due to pressure from the affected labour, often represented by powerful trade unions. On the one

hand, port workers had an interest in the introduction of modern cargo-handling techniques, as this reduced their hard physical work and afforded them regular employment. Besides, unions realised that the introduction of the new techniques was necessary to secure the competitive position of the port, which directly affected their long-term employment prospects. On the other hand, however, workers feared that the new technologies would lead to a considerable reduction in employment (in which they were right), and this has brought many of them to resist technological change. Already in 1969, there were refusals to operate new types of equipment, and shift systems and gang sizes were not reduced in line with the changed needs (Couper, 1986; p. 2).

An additional reason for the resistance of port labour to change relates to the "through-transport" concept and the door-to-door possibilities that containerisation now affords. In other words, a considerable part of what was previously considered as 'port work' today shifts to areas outside the port domain. This development has especially to do with the stuffing and stripping of containers that can now be performed at the consignor's/consignee's premises by the latter's own staff. Even when this is not the case, containerisation often allows the detachment of staffing and stripping activities away from the usually congested "waterfront" and its "rigid" and strongly unionised labour, towards *Inland Container Depots*, where ample and cheaper space is available, often conveniently located close to main road and rail junctions. By-passing the waterfront in the stuffing and stripping of containers, and thus having them ready in port to be swiftly handled by automated equipment, further increased, in its turn, the predictability and reliability of cargo movements, enabling manufacturers and traders to reduce high inventory costs through the adoption of flexible *Just-in-Time* and *Make-to-Order* production technologies. *Inter alia*, such technologies have helped manufacturers to cope with the vagaries and unpredictability of the business cycle and plan business development in a more cost effective way.

From the point of view of port labour, this development further exacerbated workers' misgivings with the new technology: The well-proclaimed advantages of containerisation were not localised but dispersed throughout the regional/national Economy and, thus, not immediately visible or directly beneficial to the workers who had contributed to their accomplishment. In the end, as port management needed the co-operation of workers in order to implement new technology successfully, certain promises regarding job security and financial compensation were made to unions, applicable to the fortunate workers who would remain employed after the necessary redundancies.

In many countries, all work falling under a certain definition of "dock work" and taking place within a certain statutorily defined "port area" is restricted to registered workers who sometimes have the sole legal right to carry it out, often organised in *labour pools*, even when they do not have the necessary skills. This situation often leads to *ghosting*, where non-registered dock workers, some employed directly by port operators, carry out whatever work is necessary, while registered dock workers are paid in effect to watch the non-registered employees with the necessary know-how actually carrying out the work.¹⁸ For example in one Asian port, a gang of 57 people was deployed to pack and unpack containers, although this was actually performed by four casual workers while the remainder looked on. The failure to adjust workforce levels to changed employment needs disadvantages many ports in (low wage) developing countries with total labour costs well above those in developed ones.

¹⁸ The White Paper 'Employment in the ports: the Dock Labour Scheme' gives a clear example of this.

This relatively protected position of registered port workers can be seen as one of the reasons why they often enjoy higher wages than those paid for comparable jobs elsewhere in the Economy. Some observers argue that this privileged position has finally resulted in a negative attitude of the general public and other unions towards port workers.

Sometimes, pressure to maintain old fashioned manning levels comes also indirectly from the government, which is reluctant to face the financial and political consequences of labour force reductions that can lead to substantial compensation payments to those leaving the industry, or even disruptions to foreign trade. Furthermore, and contrary to most developed countries where one of the prime objectives of management is to improve port efficiency, many developing countries see port 'efficiency' as a matter of only secondary importance; in the absence of social safety nets, keeping people 'working' is considered to be at least of equal importance.

This often leads to an additional labour problem facing many ports, which is the age structure of the workforce. The continuous surplus in the number of registered dock workers and the 'job for life' basis on which they are in practice employed can discourage employers from recruiting new, younger staff. That was the case in the UK where the average age of registered dock workers increased from 44.2 years in 1980 to 47.1 years in 1988.¹⁹ In the same year, the percentage of those over 50 years of age amounted to 42.5% and that of those under 35 years to 6.5%. Subsequently, after the abolition of the Dock Labour Scheme, the former 'Scheme' ports sought not only to reduce the size of their cargo-handling manpower, but also to reduce its average age and to improve its age profile.

Regularisation of port employment has also created large numbers of different job categories. Often, strict demarcation lines between different jobs and different activities exist, a fact that severely limits, and in many cases totally prohibits, the transferability of workers from one activity (job category) to another. The above labour rigidities often lead to large gang sizes, excessive over-manning, little labour mobility and high port user costs. In many ports around the world, the inflexible and monopolistic supply of port labour has effectively discouraged intended private sector activities around the port and has, thus, deprived the latter from one of its main functions, that of being a "growth pole" for the region and the country.

Measures (and degrees) of Port Reform

Considerable confusion and uncertainty surround the term *port reform* and its various manifestations, which may range from a simple reorganisation of the internal management procedures of a port authority, to the outright sale of port land, i.e. *privatization*. For the purposes of this chapter, port reform should be taken to mean *a process of change and transformation, through the introduction of private sector characteristics in public port administration, aimed to improve port efficiency and performance*.

Given the undoubtedly complex economic and legal nature of the issue, this confusion is in most cases unintentional. Indeed, differences between the concepts of, say, commercialization and corporatization, or between a *lease licence* and a *concession contract*, are often not easily discernible, even among experts. But the complexity of the issue of port reform has often been

¹⁹ As a measure of comparison, before the Australian Waterfront Reforms came into force, the average age of the workforce was over 50 years.

used strategically in order to resist change, notably by declared statist or public sector employees. The most common method of doing this is through the use of the word *privatization*, a word that admittedly carries with it a lot of negative connotations, as synonymous to reform.²⁰ In what follows, the various types of port reform are discussed in order of increasing need for change and private sector involvement, compared to the traditional situation of a publicly owned and operated port which serves as a starting point.

Table 3: Types of port reform programmes

	Global (%)	Europe (%)	South and Central America (%)	South East Asia (%)
Improving port administration	43	37	25	85
Liberalization/deregulation	28	11	37	40
Commercialization	45	37	37	25
Corporatization	17	21	37	30
Privatization	16	11	37	45
Other	19	21	-	30

Source: ILO (1995b)

(Percentages may not tally due to multiple answers)

Improving port administration

The improvement of port management and administration within the current organizational structure and without changes in law or national policy can be seen as a first option of port reform. As can be seen from Table 3, the need for such improvements is widely felt in most ports. Surprisingly, however, carried away by the well-publicized merits of more radical port reforms, ports and governments often tend to neglect the some times substantial benefits that can be reaped by improving the port's organizational structure; information systems; managerial techniques; financial management; setting clear objectives; training; empowerment of staff; team-work; and the development of a corporate culture: attributes that should be considered as prerequisites to more radical reforms anyway. Above all, management restructuring requires strong and competent leadership which, more often than not unfortunately, cannot be found among the retired civil servants, or navy admirals, who customarily frequent the chair of a port authority's president in many countries.

Managerial restructuring is of a twofold importance. First, without going into institutional restructuring which may lead to important social changes, managerial measures can bring some quite positive results to port performance. In the port of Casablanca, for example, work was streamlined by setting clear objectives for each department and working team. Also, the introduction of a new management information system (MIS) could now allow port managers to have more efficient control. The second big advantage of management restructuring is that these efforts can constitute a favourable springboard for further institutional steps. As the deputy

²⁰ I vividly remember Greece's socialist ex-prime minister, George Papandreou, at that time leader of the main opposition party PASOK, in the middle of the tear gases of the riot police, proclaiming that the government, by offering a concession of a terminal of the port of Piraeus to the Chinese company COSCO, was selling off the 'crown jewels'!

general manager of the port of Odessa, Russia, said "... we have no experience in planning or pricing, only in obedience..."²¹. Although this port is the showcase of the country's container shipping, the port's operations manager said "...I have never seen a foreign container terminal...". It would thus be difficult, if not impossible, to upgrade a port's services through institutional measures when basic management skills are not adequately developed or modernised.

Liberalization (deregulation)

Under liberalization, the private sector is allowed to provide port services, sometimes in competition with the public sector. Liberalization entails the removal of statutory restrictions limiting entrance of the private sector to the port services market, and of discriminatory rules discouraging competition. Eventually, these restrictions are replaced by regulations that encourage or even require competition. For some countries, the advantage of liberalization is that the introduction of some form of competition in port services leads to efficiency improvements, while the overall regulatory control over the (strategically important) port remains completely in the hands of the port authority or the relevant government department.

Obviously, decentralisation is a *sine qua non* for greater port management freedom and autonomy. However, decentralisation alone cannot solve the problem of lacking management incentives or competencies; having the power does not necessarily mean using it as well, and in many cases, doing nothing is considered much safer than doing something.²² For instance, reformers in China, and in many other countries as well, were caught in the decentralisation/re-centralisation cycle: Once decentralised, power and authority were quickly abused, disorder occurred, control was called for, power and authority were taken back by the *centre* and the situation was back to its original state. Then another cycle started with re-decentralisation and the old scenario repeated itself. This is a quite common situation in many developing countries, where not only the necessary legislation for decentralisation is inadequate, but the mechanisms and institutions (banking; judicial; business ethics; market culture; etc.) of a market economy are not in place. Old control has been given up, while new (regulatory) control has not been created.

In Chile on the other hand, the government ended stevedoring and land-side cargo-handling monopolies, as well as the distinction between those activities, in 1981 (by the enactment of Law 18032). Port employment was opened to all workers meeting minimum age and physical requirements. Private stevedoring companies were allowed to operate and were free to negotiate with individual trade unions on manning levels and salaries. It was estimated by the country's Maritime Chamber that deregulation benefited exporters and importers of the country by \$96 million in 1990 alone.

A possible disadvantage of deregulation is the potential danger of *cream skimming*. The private sector will only be interested to provide *those* port services that are potentially profitable; e.g. container terminal operations. In a statutory monopoly port, the sometimes unprofitable -albeit

²¹ At a certain other port, the president (a retired coastguard admiral -something quite common in that (European...) country) used to say to his staff: "you are not here to think; you are here to do what I tell you".

²² What William Baumol called the "security of the management team" has a big role to play here: focusing on performance and the need for change may require some rather hard-nosed decisions, e.g. forced redundancies, that could threaten the "survival" of the management team. The latter would thus opt for passivity rather than action. As R.A. Gordon has so succinctly put it "...the management of corporations do not receive the fruits which may result from taking successful action, while their position in the organisation may be jeopardised in the event of a failure..."

required port services, such as security- can be cross-subsidised by the profitable ones (cargohandling). However, as a result of liberalization, the public sector may be losing revenues from profitable port activities, having at the same time little possibilities for cross-subsidization. This issue should be seriously considered when leasing out port facilities to private operators: If the port authority is to continue providing commercially unprofitable services, and in the absence of central/regional government support, lease payments of private operators should be determined at a level that would allow the efficient provision of the various port services entrusted to the port authority.²³ Such an arrangement is also in the interest of the private operators, given that their efficiency improvements in cargo-handling can be easily nullified by inefficient dredging, mooring, pilotage, towage, engineering, security, fire protection and similar operations entrusted to the port authority.

Furthermore, ports in many countries have been run for a long time as administrative entities with both infrastructure and superstructure belonging to, and often operated by, the port authority. In such cases, deregulation does not automatically bring in new competition because the latter is restricted not only by regulations, or market size, but also by a lack of competitors, due to financial incapability or lack of management know-how. It may well be then that after deregulation measures have been put in place, and efforts made to restore competition, no new entrant is found to complement and compete with the old monopoly and force it to change.²⁴ It could thus be easily realised that the old organisation is too strong to be changed by (unassisted) market forces alone, and some more proactive reforms may be required together with deregulation.

Commercialization

Commercialization implies the introduction of a commercial, business-like, environment, in which the port management is accountable for its decisions and performance. In the previous stages above, ports still retain their status as quasi-government departments. In the commercialization stage, the status of a *state-owned enterprise* is justified, as the previous "government department" now changes into a public company.

The main objective of commercialization is to increase management autonomy and accountability (World Bank, 1994; p. 9). If port managers in public port organizations are not held responsible for port performance, they will not always take all the necessary steps for securing cost reductions or improvements in productivity. Furthermore, as the management of commercialised ports is still public, it often hesitates to consider, in time, possible reductions in employment. Port labour contracts are usually not governed by regular labour law, but they have a quasi-civil service status. Solutions to the above situations could be found in an increased accountability for port managers and workers, or in the contracting out of certain port functions to the private sector. Several approaches are in use to achieve this:

²³ At Brindisi, the port dues we were charging to Ro-Ro ferry operators were roughly 1 Euro per passenger, while *security* only was costing us 3 euro/passenger. What was even more interesting was that some ferry operators and their local agents would refuse to pay even this 1 euro, claiming that the port is a public facility, thus to be used by anyone without an obligation to pay! This was indeed a 'world first', lasting for years, with debts to the port authority accumulating year after year. Finally, even the thought of increasing port dues, in order to cover costs, would be immediately met by the threat of ferry operators to leave the port for the neighboring port of Bari, which would be more than happy to welcome them.

²⁴ This is particularly the case where tenders are only advertised locally and/or in the national language which, naturally, cannot entice foreign competition.

- *Performance agreements:* These agreements clarify performance expectations and the functions, responsibilities and rewards of all parties concerned. Performance agreements are usually part of annual staff assessments, thus reviewed regularly and, if necessary, adjusted from one year to the other.
- *Management contracts:* Under this arrangement, the management of an operation (e.g. port security) is transferred to a private entity. The latter offers managerial expertise and knowhow, but the port authority retains ownership (of security infrastructure such as fences, cameras, etc.) and overall control.
- *Service contract/contracting out:* This method consists mainly of the contractually specified transfer of responsibilities to a private entity for the provision of a certain service (e.g. ICT and Port Community Systems). A service contract is usually described in more detail than a *concession* (see below).
- *Lease:* Under this agreement, assets are leased for a fixed period to private lessees. The ownership remains with the (public) lessor. Among the many different types of leases that exist, the following two types are frequently used in the port industry:
 - A *flat rate lease* where a fixed amount is agreed and eventually adjusted for inflation. The amount is based on a fair return on the value of the property, often centrally and statutorily determined.
 - A *mini-max lease*, where the lease amount is variable and it is determined in relation to the actual throughput. The lease increases by steps within a minimum-maximum scale. In contrast with the *flat rate lease* method, there is no maximum level of compensation included in this option. The upper limit is determined by, for example, terminal capacity.
- *Concession:* A concession is an agreement similar to a lease in that the use of facilities is transferred for a predetermined period by the owner to a potential user, but with a substantial amount of control retained by the owner (the public port authority) on the *concessionaire's* use of the rights. Upon expiry, the facilities have to be returned to the owner in good condition and free of charge.

Port commercialization works simply because it allows the port to fix its overarching objective on market needs and customer satisfaction. However, the most difficult part is not to introduce changes, but to maintain an unswerving pursuit of objectives and a continuous dynamism. In Morocco, ODEP adopted two methods in order to sustain the positive results that followed commercialization. One was to promote and use private management philosophy and methods, and the other to create *fictitious competition* where real competition could not exist. Private management philosophy meant the introduction of a series of modern port management tools put in place, such as cost control; financial audit; rigorous personnel policy; and more discipline. Most importantly, a management contract was concluded between ODEP and the government, enabling the former to have clear objectives, responsibility, and a high level of freedom and autonomy in its management. The creation of fictitious competition meant regular benchmarkings with different ports on their productivity; relationship with clients; and management practices. Furthermore, comparisons of "competition" were also made within the same port, among various activity centres (e.g. stevedores), which had been created as autonomous entities. Evaluation was undertaken by the general manager's office, with standards based on market requirements. Reward and sanction measures were also exercised.

Corporatization

Corporatization requires the transformation of public sector organizations (SOEs) into publicly listed private companies, the shares of which are held in majority by the public sector (central and/or municipal government). Although enterprises in the commercialization stage are introducing more private sector characteristics in their operations, they still lack the legal corporate independence often needed to ensure efficient operations. Corporatization affords the enterprise a status of independence and subjects it to the same legal requirements with those of a private firm. A whole new company is thus established, enjoying administrative and financial flexibility and autonomy, enabling it to close agreements, and make decisions on pricing; investments; and human resources, without continuous reference to the government. All land and moveable and fixed assets are transferred to the new company as paid up capital.

A significant advantage of corporatization is to be found in its commercial accounting procedures, which make financial cost control more transparent, thus facilitating the identification of sources of inefficiency. As the government does not exercise direct control over port management, corporatization is in general a more attractive alternative to foreign investors than the other stages of port reform discussed above.

Privatization

Privatization is the most radical and possibly most complex exercise in port structural adjustment programmes. It could be defined as the conditional, and often transitory, transfer of port ownership from the public- to the private sector. However, although this definition serves a methodological purpose, *pure* privatization such as this is rarely found in practice. In many cases, the increasing private sector participation in the management, operations and development of ports (described above as commercialization/corporatization) would also be often defined as "privatization". Privatization can take various forms:

- *Public offering*: In those cases where the shares of the port company are quoted, even partly, on the stock exchange and can be freely traded, the government may decide on a public offering. It may also decide to retain a major part of the stock (corporatization) in order to exercise control over future port activities.
- *Management/employee buy-out*: In this situation, the government decides to divest its shares to the employees, so that the latter assume ownership of the port. A buy-out would be more appropriate whenever the employees are highly motivated and keen on buying the company. Demand prospects have to be stable and the size of the port should be rather limited.
- *Private placement*: Through a process of competitive tendering, various potential private investors can submit a quotation. By negotiation, the government can then decide which offer is the most attractive. It is possible that offers are made by a consortium of companies, banks or even a group of employees.
- *BOO/BOT*: In this case, a private company *Builds*, (*Owns*) and *Operates* an asset for a certain period. Under a BOT arrangement, at the end of the period the asset is *Transferred* back to the government. If privatization takes place in this way, the private sector is given an exclusive concession to operate an infrastructural project, such as a bridge or a port, and it assumes the risk of completing it. BOO/BOT is a form of non-debt financing of public sector activities, in which the private sector finances the construction and the costs are recovered through user fees. Depending on the project, incentives may include guaranteed purchase of output, tariff support in the early years, concessionary rates of

income tax, free repatriation of dividends and capital, and exemption from customs duties, turnover tax and excise duties.

- *Sale of assets*: This alternative can be considered when private investors are not interested in acquiring the whole of the company, or when better results can be expected through a partial rather than an outright sale.
- *Joint venture*: A joint venture represents an enterprise in which two or more private companies, or an SOE and private investor(s), jointly own the equity of the port company.

Most countries actually experiencing port privatization have adopted public-private joint venture options. Port joint ventures are often attractive to both government and the private sector. The former can thus reduce administrative and financial burdens, improve efficiency and promote competition. The private sector views this arrangement favourably whenever the magnitude of the required investments, and associated commercial risks, are beyond its capabilities, or when complete ownership of assets and operational control are not allowed.

In the port of Bremen, most of cargo-handling operations are carried out by a joint venture company (BLG) of the city of Bremen (51%) and the private sector. The same formula can be found in many other developing countries, such as the port of Cochin in India (container terminals with foreign private partner) the port of Shanghai in China (50% private ownership of the container terminal, 50-year joint venture), the port of Saigon in Vietnam, the port of Szczecin in Poland, the Free Port of Malta, etc.

However, one of the most notable examples is Port Klang in Malaysia. The operational services of the container terminal were privatised in 1986. Tenders were invited from interested local parties, based on well specified terms of reference, and the container operations were awarded to Klang Container Terminal (KCT), the first port operating company in Malaysia, set up as a joint venture between the Klang Port Authority (49%) and Konnas Terminal Klang (51%). The latter was a joint venture between the state-owned container haulage firm Kontena Nasional (80%) and P&O Australia Ltd. (20%). The new company (KCT) bought the non-fixed assets such as cranes and equipment, while fixed assets, such as quays and buildings, were leased for a period of 21 years. A condition of KCT's privatization was that the company would eventually be listed on the stock exchange. As a result, KPA's share was reduced to 20%, that of KTK's to 40%, and the general public held the remaining 40%.

Interim port reform authority

The structural adjustment of ports is a complex process, with many interests involved and a significant impact on port management workers and employees. The fact that many ports are natural monopolies makes such adjustment even more complex. The existence of an *interim authority*, which controls and directs the structural adjustment process, can facilitate the smooth and effective implementation of this process. Several recent port privatization efforts have made use of such an arrangement. The "Steering Committee" in Thailand and the "Waterfront Industry Reform Authority" (WIRA) in Australia are two examples.

The interim port authority ought to comprise representatives of the relevant government departments, often supported by a team of experts. The latter is usually multi-disciplinary in nature and it includes representatives of the private sector. An interim authority has several tasks, the most important of which is the selection of an appropriate strategy for privatization. Thus, the evaluation of the suitability and/or desirability of the different privatization alternatives would be one of this authority's main challenges. Another important task is related

to the establishment and control of a *tendering procedure*, discussed below. The interim authority can further assist with the negotiation process and the evaluation of the various offers.

Tendering procedures

Usually several private companies will be engaged in competitive bidding for the provision of port services. As there are many interests at stake, the selection of the most attractive bid is an exercise that requires powerful skills, transparency and objectiveness. Among others, the experience from the privatization process of the Songkhla and Phuket ports in Thailand pointed out that:²⁵

- All potential bidders should be provided with the clear objectives of the contemplated port privatization, together with ample information on the basis of which they can determine their commercial interest. Requirements that bidders have to meet should be stated in as much detail as possible in order to ensure that only those qualifying are encouraged to tender, and
- A standard format should be adopted regarding the information that should be submitted by the bidder (company profile and structure, financial performance, capabilities, etc.).
- Tenders should include a detailed business plan on the envisaged operations, encompassing the inevitable market research and a comprehensive appraisal of business prospects. Surprisingly enough, given the amounts of investment required, this is not often the case. Investors may thus belatedly realise that if they are to make an acceptable return on their capital, they must also raise port charges: a generally unacceptable solution that contradicts the main argument favouring privatization, i.e. reduced transport costs through higher efficiency.

To ensure the objective appraisal of all competing bids, the evaluation should rely on several clearly defined, significant criteria. However, a completely objective judgement is extremely difficult, as the assignment of weights to the various evaluation criteria is always subjective. Since the case of one bidder clearly dominating all others at all points occurs rather seldom, an *a priori* consensus, and possibly quantification, on the weights to be attributed to the various evaluation criteria is a *sine qua non*. Agreement on this can substantially ease the onerous task of the evaluation team, it adds transparency and shortens the decision time.

Related to the above considerations is the issue of the *correct valuation* of the to-be-privatized port assets and services. If privatization is contemplated primarily on ideological grounds and without a reasonably defensible *national master plan*, governments may be tempted to undervalue port assets in an effort to make them more commercially attractive to the private sector. The United Kingdom has recently seen the publication of a *House of Commons Select Committee Report* criticising the way the first five trust ports were undervalued and undersold by the Government.

In the case of Medway, the port was sold through a MEBO. The 250 employees obtained a 51% share in the equity of the new port company, with the remaining 49% shared among five persons. The shares could be bought at a price of £1 per piece, during the privatization, but two

²⁵ Port Development International (November 1988), pp. 16-21.

years later the port was sold to a new owner for almost eight times the amount the government had originally received, making the share worth over £37 each.²⁶

A similar rise in share prices has occurred in the case of Forth Ports. There, the privatized ports are in fact "estuarial monopolies". Next to owning the port's assets, the port companies have also assumed regulatory functions, including inland navigation, previously assigned to the port authority. It has been alleged that the port company has actually used these powers to effectively stop a competitor from building new harbour facilities in the area of the former trust port.

Concluding Considerations

It has already been noted that, nowadays, the increased internationalisation of all forms of economic activity, mass media, foreign experts and modern telecommunications intrigue developing countries to attempt comparisons with other nations, western ones included, many of which at a completely different stage of economic and social development, with institutional frameworks that were set up years ago. If superficially attempted, such comparisons can be extremely dangerous and misleading, particularly when successful economic reforms in other countries are taken *prima facie*, without a thorough understanding of all their implications, and without adequate comprehension of the simple fact that, if proper *institutions* are not in place, the future of privatization, and to that effect the country's economic development by and large, cannot be taken for granted.

To give a simple example, the listing of a privatised port's shares in the country's stock exchange would be next to pointless, if the latter is not functioning properly, the volume of transactions and its liquidity are low, the dissemination of market information inadequate and if capital markets, in general, are inefficient. In situations such as these, the real value of the port will be far from being reflected in the nominal value of its shares and, thus, domestic and foreign investors' interest could not be expected to be significant.

To enhance the possibilities of survival in a competitive environment, the government can improve the institutional environment of the port, thereby enhancing its ability to respond adequately and promptly to the changing market conditions. Several well documented divestiture experiences show that certain prerequisites regarding the port's economic environment have to be met, if the full benefits from divestiture are to be realised. A hospitable and efficient business environment has, thus, to exist, distortions that hinder domestic and foreign competition eliminated, and an efficient capital market with considerable absorptive capacity developed.

In addition, the retrenchment of the economic role of the State and the encouragement of greater private sector participation should constitute a careful long-term social cost-benefit analysis, undertaken by the government. The results of this analysis should form the government's basis for designing and implementing programmes of economic reform. Its strategy, once decided, should be firm, with clear and transparent objectives, and it should be widely explained through a process of extensive consultation, particularly with those parties that are adversely affected by the proposed reforms. The importance of consultation in structural adjustment could not be over-emphasised, not only in securing labour's co-operation, but also in convincing the latter

²⁶ Baird, (1994).

that the attempted reforms aim at enhancing the country's general economic welfare, which should be every government's utmost objective. This strong message has to be successfully and timely conveyed to trade unions and employees.

As it has already been mentioned, the problem here is that the wider, long-term benefits of economic transformation are not immediately and directly visible by all those, whose short-term well-being is adversely affected by the reforms, and it is only with the co-operation and consent of the latter that the reform process can be concluded in a frictionless and socially acceptable way. Employees have to be firmly convinced that retrenchment and economic austerity measures serve the nobler objectives of raising future incomes and standards of living as well of the eventual elimination of poverty.

The co-operation of trade unions should also be secured by convincingly arguing that, instead of their fruitless, short-run, pursuit of job-preservation in a rapidly changing technological environment, it would be to their members' best interest if they were to embrace more positive attitudes aiming at future job-creation. However, such arguments are bound to be more difficult to handle, particularly whenever it becomes evident that the new jobs are intended to be in the private sector, through enterprise-based labour agreements that tend to reduce union density and, thus, unions' influence in formulating labour policies.

Upon adopting a consistent, nation-wide, strategy on privatization -or its variants-, governments of developing countries should not fail to *internalise* all the social costs incurred as a result of their divestiture programmes. The economic and social costs of redundancies should, thus, figure rather prominently among them. Assuming that, through privatization, the government's objective is to raise the general economic welfare in the long-run, it would make sense to argue that workers who are made redundant due to the requirements of economic reform should be adequately compensated by those who are -or will be- benefiting from it. However difficult to achieve, in a 'win-win' situation, redundancy compensation should somehow be related to the discounted cash flow of redundant workers' future earnings, had they remained employed.

For example in the case of the Malaysian reforms, the government introduced a clause whereby employees opting to go to the privatised/corporatised port were guaranteed employment for a minimum of five years at terms and conditions "no less favourable". In France, a compensation programme was used by which redundant workers would either be retrained or receive financial compensation of about FFfr 450,000 each. In New Zealand, a similar compensation system was put in place when the country's ports were corporatised in 1998-89. Such policy has also been used in the UK following the abolition of the National Dock Labour Scheme.

However, the experience of Malaysia may be specific or even exceptional because the country has been enjoying high economic and trade growth which has helped in avoiding layoffs or expensive retraining. Other countries without a favourable economic climate can hardly impose such mandatory conditions, because the existence of such redundancy costs would undoubtedly reduce the financial attractiveness of the to-be-privatised ports, it could dilute private sector interest and it might, thus, prolong the timely completion of the reform process.

The government has again a strong role to play in these deliberations: The various redundancy costs should not be contrasted only with the short-term financial prospects of the privatised port -which of course is the prime concern of the private investor- but with the long-term economic benefits of divestiture for the Economy as a whole. If this is the prevailing principle, the

government should bear itself the costs of redundancies and it should finance them centrally. This approach would then constitute a form of income re-distribution towards those who had to lose their jobs, so that others could maintain theirs presently and in the future.

Another method, suitable for countries that are particularly concerned with issues of income distribution and accumulation of wealth, is the financing of redundancy costs by those who directly benefit from the economic reform. Employers of privatised companies are here called upon to assume a significant part of the redundancy costs themselves and these costs should be a clear and quantifiable element in their investment appraisal exercises regarding the evaluation of the financial attractiveness of the to-be-privatised port. Given the long-term macroeconomic benefits of privatization, the government can -and normally should- share a part of these costs. Finding an optimum allocation of redundancy costs between the private and the public sector should, thus, be one of the main issues in the design of a port reform programme.

The above method makes a lot of economic sense, particularly in the port privatization attempts of developing countries. It can be very defensibly argued that although the economic and social costs of port reform are borne by the country itself, the benefits from the increased port productivity, as a result of privatization, can very well accrue to the foreign shipping operators servicing the country's external trade. In this way, and in the absence of adequate competition in international shipping, higher port productivity is not necessarily reflected in lower transport costs, but perhaps in increased profits for the foreign transport operators. If that were to be the case, it would be reasonable to argue that the latter operators should bear themselves a part of the costs involved in increasing port productivity through, say, temporarily higher terminal handling charges and/or general port dues.

Again, in the absence of adequate competition in international shipping, levying shipping operators in order to recover reform costs may result in higher transport costs that could be easily passed-on to the final consumer. This would be particularly true if domestic commodity and product markets are either not developed, monopolistic or, in general, uncompetitive. However, given that redundancy costs are once-off or time-limited expenditures, the redistributive effects of such a situation would also be limited, and thus innocuous, as long as additional levies are not becoming a permanent element in the port's cost structure.

Finally, the 'user pays' principle should also be very welcome to the foreign ship-operators servicing developing countries' external trade, given the latter's interest in the existence of efficient ports in their trading areas. This interest can be immediately understood: the benefits accruing to ship-operators from their investments in large ships and integrated transport systems can be easily withered by inefficient port operations at their ports of call.

Another important consideration regarding the effectiveness of increased port productivity, and the distribution of benefits from it, concerns the port's role within the overall supply chain. The efficiency of a port and the desirability of government divestiture and other port reform plans cannot be judged in isolation but only within the economic framework the port operates. More and more ports in a large number of countries are losing their traditional function as merely interface points between land and sea and are assuming the much wider function of a crucial link in the production-transport-distribution chain. In this way, inefficiencies in the other parts of the chain can easily nullify all benefits derived from improved port efficiency.

For example, many otherwise efficient ports have been known to be faced with extremely bureaucratic and time-consuming customs regulations resulting in unacceptably high dwelling times. In others, where handling rates of 35 TEUs per crane-hour are boasted, it may take three hours from the gate to the motorway (1 km) due to excessive road congestion and to the fact that trucks have to transverse the city centre. In a number of ferry ports, passenger/drivers have been known to be queuing for as much as 12 hours, under extreme weather conditions, in the middle of the city, without access to even elementary sanitary facilities, only because an advance-booking system is not considered by the shipping agents -operating in a cartel- as a good idea.

Bottlenecks and inefficiencies such as these in the port's operating environment can easily choke-off and annihilate any potential benefits from introducing commercial principles and practices in cargo-handling and/or other direct port services. If these issues are not seriously taken into consideration, port unions would be quite justified in arguing that, in cases like the above, their members would have to bear the consequences of divestiture, while the benefits are used to cross-subsidise other inefficient economic activities (such as the provision of inadequate road and rail capacity) where no reform is being planned in the near future.

The above notes are by no means meant to be taken as making the case against the introduction of commercial principles in port operations. The only point that is made here is that the successful implementation of port reform plans -if they aim at ensuring general support in democratic societies- must fit within a general strategy of economic reform, where all its implications and consequences are thoroughly debated through honest and sincere dialogue. Piece-meal, *ad hoc*, or unsubstantiated attempts to privatization are not likely to gain the support of unions and of the general public.

The economic reforms in Malaysia can again serve as a very good example of a correct way to privatization. In 1985, the beginning of the reforms, the government's Economic Planning Unit issued the 'Guidelines on Privatization' for the purpose of *...elaborating and clarifying the government's policy on privatization to both the public and the private sectors ... and also to enlighten the employee and the general public on this subject...*

The 'guidelines' were subsequently thoroughly debated at all levels, with the active participation of the country's prime minister, and most people were convinced that privatization and economic efficiency are the only road to the '2020 vision', meaning the transformation of Malaysia into a fully developed economy by the year 2020. However, in order to put things in their proper perspective, it should be mentioned that due to the country's fast economic growth, privatization did not cost jobs and those employees that had decided to leave under an early retirement scheme were more than adequately compensated.

An important final point that could be made regarding the distribution of benefits from port divestiture programmes concerns the very distinct possibility of creating private monopolies in the place of the former public ones. The effects of government divestiture without adequate competition are rather doubtful and private monopolies -apart from reducing general economic welfare- may be socially undesirable too. Their existence does not necessarily reduce bureaucracy, as new regulatory bodies will have to be created, to supervise their operations, so that they do not enjoy monopolistic profits to the detriment of the final consumer. The successful privatisation of natural monopoly ports requires a regulatory framework that separates out potentially competitive activities, establishes the tariff regime, clarifies service goals, develops cost-minimisation targets and creates or strengthens an agency to supervise the

process. This regulatory framework ensures that divestiture leads to increased efficiency without harming consumer interests.²⁷

²⁷ Kikeri, *et al.* (1992, p. 6).

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