

PRIVATISATION OF PORTS

by

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SUMMARY

As the global economy and market demands evolve to be more transparent, time-sensitive and competitive, privatisation in organisations has become a phenomenon renowned for the advantages it delivers of increased productivity and profitability. Port privatisation is no exception.

Aimed at achieving improved operational efficiencies and the reduction of port costs, port privatisation has evolved and yielded varying results. Depending on prevailing social, economic and political circumstances, these effects differ amongst countries.

This dissertation analyses this phenomenon, focusing on whether a port and its related services are public or private goods; why governments choose to produce and provide port services; what various international port privatisation models can positive lessons be drawn from; and what the impacts of port privatisation are.

South Africa has recently avoided the arguments around port privatisation, due to pressing socio-political issues, and the analysis of economic gains and losses associated with privatisation may offer insights into why such government decisions would have been made.

Key terms:

Port privatisation; sea freight industry; private participation; concessioning; commercialisation; productivity; port efficiency; inter-port competition; port reform; objectives of port privatisation; port labour.

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Chapter One

The Nature of Privatisation

1. Privatisation and ports at a glance

Port privatisation is a phenomenon largely debated by two specific schools of thought. The first includes those in favour of private participation across the production and provision of various goods and services, linked to an improvement in the market supply of these goods and services - which translates into an enhancement of consumer choices and organisational performance. The latter school of thought includes those who believe government intervention is a necessity to regulate, produce and provide public goods and services, in order to improve access to such goods and services - thereby ensuring fairness and equity in their production and provision to the public.

The aim of this dissertation is to review the process, application and impact of port privatisation in port systems across the world, where theories have been tested and arguments have evaluated. Port systems vary in size, geographical make-up as well as services rendered, based on trade demand and supply, and the methodology of the dissertation is a review of port privatisation implementation across developing countries. Important questions covered are:

- a. are ports and port services public or private goods;
- b. what role should government play in ports and the provision of port services;

- c. should ports operate as natural monopolies;
- d. should ports and/or port services be candidates for privatisation;
- e. do reigning economic and political conditions influence private participation decisions; and
- f. if private participation is to be considered in the production and provision of ports and their services in South Africa, what would the impacts of this be?

Such an analysis will prove that South African port conditions favour private participation in the provision of port services, in order to encourage improvements in port efficiency. However, other influencing factors need to be taken into consideration.

Mr Flemming Dalgaard - Managing Director of Mearsk Sealand - is quoted as saying: "If costs continue to increase and one has ongoing challenges with [port] productivity, there is no doubt people will look at alternatives, and Maputo is a real alternative" (Smuts 2004: 8). Mr Dalgaard's comments reflect the sea freight industry's perception of the ability of South African ports to meet their current and projected demands in the dynamic environment of global trade.

South Africa is not unique in terms of the mounting pressure on its seaports. Other developed and developing regions, such as the Asia Pacific, have also identified the need to improve on the capacity of their transport infrastructure, including ports. The rapid growth in Asian economies, together with globalisation, has led to Asian ports

dominating container sea-trade, with their growth exceeding that of world container trade (Reveley & Tull 2008: 1).

With the increasing concerns about port efficiency by ship-owners, port productivity has been placed under the spotlight. A port's cargo-handling capabilities, ship turn-around times and handling costs, force shipping lines to seek appropriate sea freight solutions to remain cost-competitive in a dynamic sea freight market. With all South African cargo and passenger ports falling within the jurisdiction of the state-owned company (SOC), Transnet, the introduction of private participation in South African ports may lead to the realisation of much needed improvements.

The sea freight industry plays an important role in global trade, allowing countries to make use of a relatively cheap option of moving goods from one part of the world to another. Being the only mode of transport large enough to move significant volumes at competitive prices, time sensitivity of products transported this way becomes less of a priority. Based on the factor of relatively slower transportation - in comparison to air freight - the sea freight industry typically lags behind general business cycles, due to prolonged order deliveries.

It has been argued that port privatisation facilitates foreign investment, which aids a country's infrastructural development, as well as providing access to technology to

improve overall operational productivity and to eradicate inefficiencies in the affected industrial sector.

Since the global sea freight industry is viewed as being the largest mode of transportation on earth, ensuring that sea freight transportation is efficient, modernised and consistently seeking technological improvements, will mean that ultimately, consumer choices are enhanced, and competition between transportation modes is evident. Such improvements can take two forms:

- i) vessel technology improvements whilst at sea, and
- ii) vessel handling improvements whilst in port.

A main focus in this dissertation will be on the latter option, where there is a need to clearly understand what port operational activities comprise, how cargo handling is performed in ports as part of the logistical chain in the supply of goods and services, and how the introduction of private participation in port handling will have positive effects on a port's productivity and a country's growth.

1.1. Definitions in a port environment

To generate a clear understanding of what a port is, commonly used terminology in the port environment is reviewed here.

A port or harbour is deemed to be a city or other place where ships are loaded or offloaded. This can relate to either goods or people. Ports are deemed to be critical transportation nodes in an economy's development, facilitating the movement of both imported and exported goods. Their capability to directly interface with the rest of the world, may not only encourage or discourage growth through trade, but may also bring with it international standards and experience. Countries are therefore highly dependent on their sea ports or harbours bring them closer to the global village that surrounds them.

Relating our understanding closer to the handling of sea freight in ports, there are hundreds of commodities shipped by sea, however these can be narrowed to four main types of cargo: bulk, break bulk, containerised cargo, and specialised cargo (Stopford 2009: 61-67). Bulk cargo is largely that which is transported unpackaged in large quantities, and may be termed either liquid or dry, according to its consistency. Examples include oil, grain and coal. Handling facilities for the loading of such material require specialised equipment and machinery, such as conveyor belts, grain elevators, and silos, and also specialised bulk ships to enable the sufficient carriage and appropriate handling of such material. An example of such ships would be oil tankers, which have the capability of dispatching fuel through specialised pipeline facilities.

Break bulk cargo is a term used for general cargo where individual parcels are fairly small, and cannot fill a ship or a ship's hold (Stopford 2009: 62). This cargo may be packaged in bags, crates, drums, barrels, pallets or containers, and the contents vary in nature. Break bulk has been the most common form of cargo in the history of shipping. However, since the 1960s and the exceptional popularisation of containerisation, the loose cargo movement of break bulk volumes has declined drastically. Break bulk ships have the capabilities of loading and offloading varied packaged goods using a ship's cranes or 'ship's gear' (the latter is the terminology more commonly used).

'Containerised cargo' is a means of packaging for general cargo, using ISO (International Shipping Organisation) containers or units, which can be loaded and sealed for movement on container ships. Containers are box-like units into which cargo can be loaded and transported, using special cranes and customised ships. Containers vary in length relative to cargo configuration demands - i.e. 6, 12 and 13.5 metres in length. This method of handling has offered the key benefits of safety from damage and pilferage for loose cargo, which break bulk cargo is more likely to experience due to the very nature of its packaging and possible movement in the ship's hull. Container ships have varied in size as traffic demand has increased over the years, with the latest version being 'Post-Panamax' vessel size. This is approximately 396 metres long and has a carrying capacity of 14,500 containers.

Specialised cargo is that which requires a specialised fleet for parcels that are not homogenous in nature. These include motor vehicles, forestry products, chemicals and temperature-sensitive products requiring refrigeration (Stopford 2009: 62). For this transportation, specialised fleet types are used and chartered to operators. Some specialised ships known as 'Roll-on/Roll-off', or 'Ro-Ro', are used mainly for the transportation of automobiles such as assembled vehicles of variable size. With recent cost-based decisions by international automobile organisations to spread operations across the world to countries where local labour and taxes enable cheaper and faster production periods, such vessels enable smoother transportation of fully assembled units from the production country to the target markets.

1.2. Structure of ports

Sea ports are structured to facilitate the most effective means of ensuring the safety, efficient loading/offloading, and replenishment of ships' supplies. For these requirements, ports are structured under various functions.

A port can be divided into three separate areas of responsibility - port landowners, port operators and port regulation (Baird 2000: 397). Port landowners include those who hold the property rights to the land in ports. Port regulation includes a port regulatory authority that is responsible for the enforcement of port regulations and administration of port services. This may include pilot services to vessels to guide them in an out of a

harbour, tug services, fuel-tankering services, and barge services. In some instances, the port authority is responsible for the safety and security of a vessel and its crew, as well as a port's land, infrastructure, and the maintenance thereof. Its role may also include ensuring all port services supplied are in the interests of ensuring a safe turnaround of vessels whilst in harbour. In some instances, other services may form part of a port authority's responsibilities, including ship repair and maintenance, where those vessels requiring special attention undergo refurbishment to allow for a safe voyage until a next planned stop.

Port operators perform a primary function allowing the intermodal transfer of goods or people at one point. Ensuring that this happens effectively, means that a ship's berth is safe and clear of obstruction, that handling equipment is in good working order, and that ship handling is conducted in a safe and secure manner for both its operators and customers completing the vessel's offloading, and loading in the quickest time possible (wharf-side operations).

Once transfer has happened off the vessel, the efficient movement of goods or people out of the harbour is imperative for preventing any congestion which may inhibit the harbour's capacity to perform multiple tasks simultaneously (land-side operations). For example, since vessels' calling patterns are determined by estimated time to be spent at sea, cargo to be exported may be pre-assembled at port-side and planned according to its load requirements or ship's shape or size. This allows for easy loading in accordance

with the vessel's configuration, and at the same time balances the vessel for a safe voyage. Once the vessel has berthed, the operation of offloading and loading occurs hatch-by-hatch (the vessel's internal compartments) in accordance with the plan. Together with refuelling and replenishment of vessel supplies, the turnaround of a vessel is reduced to that which is most practical. Conversely, a container ship may be entering a port to offload a number of units. Again, since a vessel's calling pattern and load is well planned in advance, equipment is prepared for fast and effective offloading once the vessel is berthed. Containers will then be packed alongside the vessel in sequential form, to allow for easy recovery and dispatching to clients.

Based on the above, various bodies within a port system are involved in the functions discussed. A port authority, provides tug, pilot, security, ship repair and administrative services - in order to ensure compliance with port regulations and standards. Port operations or handling companies are associated with cargo handling whilst on a berth, or any other subsidiary services required for the movement of goods to or from the harbour, such as rail or road interfaces (Baird 2000: 398-401).

1.3. Definition and objectives of privatisation

The *New Palgrave: A Dictionary of Economics* defines privatisation as the "transfer of assets or service functions from public to private ownership or control" (Eatwell, Milgate and Newman 1987: 976). The *Readers Digest Oxford Complete Wordfinder* (Tulloch

1993) refers 'to privatise' as meaning "to make private", or by application would mean the ability to move services or assets from public ownership and/or control to that of a private entity or entities. According to Bennett (1997), there are three ways of doing this:

- *'Divestment'* – The transfer of state-owned assets to private ownership by either sale, restitution, give-away, or liquidation. The true sense of this form would be the complete handover or sale of such assets or enterprises, with a total relinquishment of control
- *'Delegation'* – The transfer of the management and control of such state assets or activities to agents operating in accordance with certain market indicators (while maintaining state ownership and control). Examples are leases, concessions, management contracts and operating franchises, where some form of control remains with the state.
- *'Displacement'* – The passive allowance of the private sector to expand or by active promotion of private sector involvement in former public sector activities - for example build-operate-transfer projects and outsourcing (Bennet 1997: 4). This includes the transfer of ownership over a period of time, where managerial control is phased out and is often bound by specified conditions or criteria, which then need to be fulfilled at the time the transfer is concluded.

Privatisation has to begin with “agreed objectives and will progress through options to decisions”, and in the pursuit of the end of private interventions, many governments will pursue a similar set of policies/objectives, but for very different reasons (Letwin 1988: 25). Although privatisation’s objectives tend to be clear, the benefits of implementation are only derived after various options have been critiqued and eliminated.

Key deliverables for privatisation as noted by Letwin (1988), are:

- a) To reduce the burden created by SOCs on the national budget deficit. A common task is to create wealth through the disposition of state assets, in an attempt to improve the finances of the national treasury. However, state assets were created for the benefit of consumers, and their disposal can - under certain circumstances - have a contradictory impact on the welfare of people.
- b) To market the economy as being globally competitive. This objective often relates to one or more underlying factors relating to an assessment of global competitiveness. Mainly due to high cost or price structures, elements of services rendered internationally become uncompetitive by international standards, and hence the need to improve the global attractiveness to trade becomes critical.
- c) To reduce interference by government and/or politics in the market, and ultimately aiding the decision-making and accountability aspect of an organisation. SOCs, like most other organisations, are tasked with the strategic

- objectives of delivering on state demands. In some instances, objectives of business feasibility have negative impacts on labour resourcing, conflicting with a government's national agenda on employment creation. In such a circumstance, a nation's overall goals are paramount, and an SOC will be forced to find other sacrifices in achieving its goal.
- d) To increase productivity and reduce inefficiencies which will enhance the organisation's performance and ultimately aid economic objectives. In most privatisation, and in non-privatisation cases, inefficiencies creep into operational processes and service design, resulting in lower than optimal productivity levels, higher costs, and higher prices to cover such costs. Such inefficiencies require process or service redesign, which requires certain levels of skills which are often lacking in an SOC - while the consumer suffers unnecessarily. It is believed that by introducing private participation, the necessary skills can be obtained to 'turn' such businesses around.
 - e) To increase the quality, quantity and diversity of goods and services, which will enhance consumer choice, ensure that competition evolves, and also take into consideration the organisations' social responsibilities and environmental impacts. With private companies having better access to the latest technologies, their ability to improve procedures and the quality and quantity of products offered, is much greater.
 - f) To promote widespread share ownership amongst the electorate, and in that way promote direct public interest and investment in new technology. By

inclusion of private participation, it is assumed that the general public will gain an interest through a national share exchange system, while at the same time creating greater interest in the performance of the enterprise concerned.

- g) To speed up the development of capital and lending markets. With access to global financial markets and lending institutions being somewhat greater for government institutions than their private counterparts, the lending of such funds is restricted to certain criteria linked to its spending. Private lending is often linked purely to returns on investment, which can allow the firm latitude to make use of the funds for purposes it deems necessary, and which will directly impact on its bottom line (Letwin 1988: 26; Mangan & Cunningham 2001: 56).

In contrast to the key deliverables of privatisation above, privatisation may be viewed differently considering the role of the state and its ability to generate similar results to that of privatised firms. Kaldor (2000) emphasises that while private sector firms' aims are based on profit-making objectives, social-based goals may play a larger role in achieving national objectives. While profitability is based on uncertain expectations of the future, this theory does not take into account dynamic market or technological developments which may influence market conditions and ultimately profitability results (2000: 7-8).

There are four main issues which need to be considered when comparing private and public ownership:

- a. *The extent and continuity of economic development*: While profit-making decisions are based on short-run activities, public ownership can make long-run decisions which are not driven by a profit motive, but on overall social goals.
- b. *National or foreign ownership of large industrial enterprises*: In practice the choice between public and private enterprise ownership in developing countries may result in private enterprise which is foreign-owned, resulting in expropriation of funds and no real impact on the economic development of the state.
- c. *Efficiency of operation*: In developed countries, there is no clear evidence that suggests that privately-run firms are better managed and technologically more efficient. In developing countries, however, due to managerial inexperience and political influence, privately run firms may have the ability to operate at higher efficiency levels than their public counterparts.
- d. *Long-run considerations*: Despite the efficiency argument in favour of private firms, long-run sustainability of publicly owned firms cannot be ignored. The longevity of the Soviet Union and its investment into science-based technology is a historical example where positive gains were made.

The above analysis shows there is no clear directive as to whether private ownership is superior to public ownership, and each privatisation decision must take into consideration its objectives, unique market conditions, and common limitations that would be faced in the execution of privatising a firm. Each factor highlights those elements of state control which may or may not limit an organisation's success. As many and different as these objectives may be, there is no single answer to "Why do governments privatise"? As a result, varying effects of privatisation and subsequent economic, social and political impacts, can be realised.

Public perceptions of State Owned Companies (SOC's) have been reiterated by Pirie (1985: 8-16), who lists ten problem areas of state performance, which are considered to be structural weaknesses that need to be monitored and rectified. Although somewhat dated, these problem areas remain relevant today:

1. *Production costs*

Major studies confirm that public sector costs are much higher than in the private sector, predominantly due to the large overhead cost structure carried by organisations. Market-induced pressure to reduce costs and increase profits acts as a form of discipline in the private sector, which is often absent in the public sector.

2. *Efficiency*

Most public operations use high levels of manpower and machinery, and these are less efficient than those of private-sector counterparts. The discipline of competition forces private companies to function more efficiently, and with leaner structures.

3. *Labour costs*

The flexibility of public enterprises towards labour cost increases, tends to be greater as a result of their ability to pass those costs directly back to the taxpayer. As private entities have greater pressure on them to ensure that prices remain competitive, they are more likely to negotiate labour agreements more vehemently, and with more concern about curbing increasing costs.

4. *Consumer input*

Due to consumer choice in the private sector, goods and services need to satisfy consumers' needs in order to attract customers and make a profit. Pirie boldly states that some public activities are geared towards the interests of their workforce, more than those of their customers. Hours of work, prices and quality are normally structured to benefit internal processes, as opposed to the external environment.

5. *Capital costs*

The decision on capitalisation is often based on how much the government has available or has allocated for this purpose. The level of taxes and the political pressure to increase government expenditure on other pertinent issues such as housing and

health care, have to be taken into consideration when such a decision is taken - in particular if there is public knowledge of it. The private sector, however, utilises the practice of capital renewal, where firms ensure they are kept abreast of the latest technologies or production processes, as well as ensuring that adequate funding for the maintenance and acquisition of capital is available.

6. Innovation and flexibility

Due to the pressure exerted by consumer choice, the private sector is constantly seeking new products and services, in order to give them the competitive edge. In order to remain competitive, private firms are forced to adapt quickly to market changes, knowing that failure to adapt will result in losses to the business. The public sector, however, is noted for a slower rate of innovation, and services tend to change very slowly. This tendency is due to the intention to stretch public capital goods beyond their useful lives, the power of unions to resist change, and the absence of reward for innovation in such an environment.

7. Decision-making

While most decisions in the private sector are based on economic factors, those in the public sector are influenced by political motives as well. In a private entity, decisions to expand and levels of production and prices, are based on market demands and trends. In the public sector, the decisions are often based on how the popularity of the

government will be affected, voting preferences, and the degree of tolerance the public may have to these changes.

8. Condition of equipment

Public sector employees have 'an attitude' towards the care and attention given to equipment. As equipment in this environment is owned 'publicly', it does not belong to any one individual, and hence does not receive the attention it requires. Private equipment tends to be in better condition than that of public enterprises, as private firms believe that if equipment is clean, modern and well maintained, these assets are most likely to produce quality products that will satisfy demand.

9. Interruption of service

Due to the distribution of power between labour and management in the public sector, industrial action undertaken by labour shifts the power scales in labour's favour, and this interruption can effectively shut down the supply of a service to consumers at large - especially where public monopolies exist. In the private sector, however, workers have to consider the consequences of such action, and how this affects their job security. Strikes can cause a loss of revenue and ultimately force the firm out of business in the private sector. However, jobs are less at risk in the public sector, and there is always hope that the government will intervene to force the SOC to resolve the strike and have the service restored.

10. Attention to cost control

Due to the high level of competition in the private sector, a rise in costs and ultimately price will lead consumers to exercise their right of choice and shift to other suppliers, or use substitutes, or even consume less. Private firms need to be fairly conscious of cost-cutting opportunities in order to attract investment, as investors are led by the ability to earn high returns in profitable organisations (Pirie 1985: 8-16). With problem areas as highlighted above in managing SOCs, the argument for increasing private participation in them becomes that much stronger. From a private participation perspective, where employees and managers of certain organisations are not the direct owners of the organisation, such as with management contracts, attitudes and behaviour might not emulate the above, unless there is a direct impact on the salaries of these employees. Based on the above, public entities' challenges pose serious obstacles to realising competitive advantages that will allow such markets to operate efficiently. Due to high cost structures, underutilised resources and consequently high prices, SOCs are not only uncompetitive, but state regulation can actually allow such behaviour to persist.

Despite the ten characteristics highlighted by Pirie above, the assumption that SOCs cannot be high-performing and efficient organisations, which emulate their private counter-parts, cannot simply be made. Popovich (1998) classifies high-performing organisations as those who produce goods or services at a higher quality, with the same or fewer resources than their competitors. He argues that their productivity and quality

improves continuously, so leading to the achievement of their business mission (Popovich 1998: 11).

Getting SOCs to a state of high performance would then require a process of business transformation, with emphasis on people and change management. Facing challenges such as budget limitations due to national pressures, ever-increasing demands from customers, under-skilled workforces, and perceptions of waste and inefficient behaviour, SOCs have a difficult time developing and implementing plans that enable them to evolve into high-performance organisations (Popovich 1998: 14-15).

An interesting criticism of SOCs - as highlighted by Pirie (1985) - has been the lack of innovation that enables them to improve the productivity and quality of their goods or services. In contrast to Pirie's analysis, a more recent study by Bekkers, Edelenbos and Steijn (2011) clearly indicate that the evidence of this is very rare, and research shows that public sector organisations are innovative and in some instances are twice as innovative as their private sector counterparts (Bekkers, Edelenbos & Steijn 2011: 44-50).

The ability of SOC's to be innovative suggests that as consumer demands have changed, so have SOCs adapted to introducing more effective methods of production, which may not necessarily be new to the industry but are at least new to the organisation. Despite private and public innovation deemed to be different, the fact that SOCs are making

inroads into improving service quality and production, is one point that cannot be ignored. However, this transformation is happening at a slower pace than that of private firms, and the public's negative perceptions of SOCs persist. One such example may be the investment into technologically advanced equipment in publicly-owned ports to assist with faster loading and offloading of large vessels, in order to remain competitive with their privately-owned counterparts.

1.4 Different forms of privatisation

The United Kingdom was considered the leader in the privatisation boom in the 1980s, with many of its SOCs - including public utility services such as water, electricity and telecommunications - being sold to the private sector. Various methods of transfer were used, such as the direct sale of assets for an agreed price, a labour buy-out, as well as competitive tendering for the provision of certain governmental services such as health services, refuse collection and street cleaning (Clutterbuck, Kernaghan & Snow 1991: 15-18).

The majority of Britain's most profitable companies were businesses that were previously state-owned, and by using the stock exchange as their means of privatisation, share prices increased dramatically. Automotive manufacturing giant Jaguar grew exponentially, with share prices having risen 450% prior to its takeover by Ford in 1991. Telecommunications experts Cable and Wireless also benefited from the share flotation

approach, and after eight years of privatisation their profits improved by 600%. This method of privatisation captured the increase in value of the organisation, both prior to and after privatisation was initiated, but does not come without the risks of stock market fluctuations (Clutterbuck, Kernaghan & Snow 1991: 21-22).

Privatisation by flotation proved to be fairly successful in Britain from 1981 to 1987, when the stock market was strong and on a rising trend. This process not only reduced the level of state involvement, but also increased the number of individual shareholders and the turnover of shares, as a result of shareholders selling shares to benefit from the short-term gains. However, by October 1987, share indices registered serious falls, and other privatisation programmes such as direct sales to existing companies in the same industries or to employees of those companies for sale, proved to be more successful.

The privatisation of the United Kingdom's health support services took place in the form of competitive tendering in September 1983. Tenders were opened to private contractors to analyse the most cost-effective ways of providing the support services - such as domestic service, catering and laundry services. By March 1988, most of these services had been placed on tender, and an annual savings of £106 million was recorded (Fraser & Wilson 1988: 91). By removing non-core activities to the private sector, health support services had not only reduced costs substantially, but were more focussed on delivering quality and efficient service offerings.

As in the United Kingdom, the provision of health services, municipal services (including water and sanitation and solid waste collection), have been privatised in countries such as Germany and France. Bennett (1997) indicates that 75% of France's water supply service is privately run, while in Germany, various health, education and welfare services are provided privately (Bennett 1997: 5). This is indicative of a trend that there are perceived benefits to privatising such critical public services.

1.5 The extent of privatisation

The extent of privatisation is dependent on whether its objectives are met and which measurement criteria are used. Privatisation has been associated with various outcomes (including improving company profitability, productivity levels and growth) and hence can be measured in a number of different ways.

Establishing the number of SOCs sold in whole or in part, or transferred into some form of private ownership, would be a fairly easy method to measure the extent of privatisation. South African examples are Transnet Housing (a division of the Transnet Pension Fund offering mortgage loans to employees supported by their Pension Fund contributions, and which was sold to First National Bank); Telkom, the telecommunications giant (part sold to private investors and publicly listed); and Denel, the chemical and aviation arms manufacturing unit, also being introduced to private participation through equity partner inclusion.

Due to the variation in sizes of SOCs, measurement of privatisation can, however, be obscured. A more conclusive alternative could be the value of the assets transferred by the state, or the total proceeds of such sales per annum - which can be used in comparison to GDP figures. A significant ratio would be the share of privatisation proceeds in total revenue towards fiscal relief to the state. Another way to measure the extent of privatisation, would be the share of the private sector in the overall economy, i.e. the private sector share of GDP.

The difficulty in such a measurement of privatisation, is that when shared responsibilities exist, such as when public assets are used by a private firm - e.g. lease concession or operating franchises - the value-adding would be allocated to the private sector. Similarly, when management contracts and performance or framework agreements exist, i.e. where the state holds a majority interest and yet those managing the business have been contracted from the private environment - value-adding contributions will be recorded in favour of the public sector. No clear apportionment of value-adding would thus be gained or attributed to the sector which rightfully can claim it.

A World Bank study conducted in 1995, uses a state-owned enterprise share of GDP measurement, as opposed to a private sector share, in assessing the impact of privatisation on economic performance (Bennet 1997: 7). This is a somewhat

inappropriate measure to use, as it does not include privatisation by delegation (the management or control of state assets by private participation), nor the privatisation of non-SOC governmental activities. It does, however, provide an estimation of the growth of the private sector and illustrates where divestments have been few, where the decline in the SOC share is attributable to faster growth in the private sector and not to the transfer of assets from the public to the private sector as is normally expected.

All these difficulties mean that where no clear privatisation strategies have been followed by the state, the growth of the private sector has largely been due to standard industry growth and private sector development. This is opposed to direct sale or transfer of public entities to the private sector, where the public sector does not necessarily decline, but where its share of GDP declines relative to the economic growth of each sector (Bennet 1997: 7).

Chapter Two

The Economics of Port Privatisation

2. The economics of ports

For many, if not all, coastal countries, ports are critical nodal points for international trade flows. If they operate effectively and efficiently, the economy, electorate and the country at large stand to benefit - but unfortunately, the converse applies as well. By their very nature, ports have been nominated as ideal candidates for privatisation, as with millions of tonnes of cargo and passengers throughput annually, their levels of productivity and efficiency have a ripple effect on the rest of the economy. Also, with extremely large investment portfolios due to the nature of the infrastructure and super-structure required for the effective running of a port, long-term return on investments is critical to justify sustainability.

In this chapter, the theoretical arguments around port services and how the economic definition of these services is linked to current production and provision, are presented. I shall present theoretical arguments of privatisation and ascertain what other considerations must be made in maintaining a port's competitiveness, besides privatisation.

2.1 An economic analysis

The various objectives of privatisation are typically expected to create benefits for consumers through efficiency gains. Despite these gains, socio-political goals need also to be taken into consideration, and a delicate balance between private and public ownership may need further analysis. As mentioned previously, each state may opt for different privatisation policies relative to what they hope to achieve, and taking the existing economic, social and political climate and conditions into account.

2.1.1 Public versus private goods

The production and provision of public and private goods has been discussed by economists for many centuries. Public goods are those whose consumption by one person would not preclude another person's consumption of the same good, while private goods are those which if consumed by one, cannot be consumed by another (Carlton & Perloff 2005: 82-84). The lighthouse is a public service, that due to its nature of providing a service to passing ships, would not preclude non-paying ships from also consuming the same service, but would have difficulty recovering a fee from passing ships (Coase 2005: 32-34). Although through process and technological advancements over time, it can be proven, however, that through the provision of either a 'light duty' or uniform fee, such lighthouse costs can be recovered (Coase 2005: 32-48).

Ports as geographical phenomena provide services that can be considered to be private goods - i.e. where consumption is rival and exclusionary. The consumption of a port's

services by an additional shipping line may incur additional costs, as additional labour resources, equipment and administration may be required to complete this service. The exclusion of one shipping line may be possible when other shipping lines are being serviced, and may result in increasing sailing time and ship hire costs as the ships wait for service. In this sense, port services are rival and excludable, making it a private good which can be provided and produced publicly (Rosen & Gayer 2008: 53-54). Port services are then rendered to those ships which are willing to pay, and those unwilling to pay will be excluded. Due to limited capacities in ports, one ship's handling may reduce the service available to other ships, resulting in port congestion and increasing costs - thereby making the services rival.

2.1.2 Perfect competition and natural monopolies

Whether the production and provision of a private good publicly, will create the most efficient service, is questionable. Standard economic theory suggests that under perfectly competitive market conditions, marginal cost will equal marginal revenue, and the perfectly competitive quantity of goods or services will be supplied and purchased (Shepherd 1997: 39). Interestingly, where the objective of profitability as the primary motive of private firms, and is based on the best allocation of resources, its foundation is the assumption that markets operate under perfect competition models, which in practice is often not the case. If resources are efficiently allocated relative to the ratio of outputs (products) against the inputs used in the production of those outputs, it is

assumed that competition has reached its limit, or no further competition can take place (Djolv 2006: 29). This would suggest that firms supply the same product, using the same resources, and compete on nothing else except price. Seemingly, the profit-maximising Pareto equilibrium then does not promote competition and is highly unrealistic.

Since sea ports require substantial capital investment due to large infrastructural requirements such as quay walls, berths, land reclamation and barges, with operations requiring extensive storage capacities and inter-modal transfer points (e.g. from sea to road or from sea to rail and vice versa) – most ports have historically been built and operated by governments, with the intention of ensuring that service provision to the country and the rest of the world is secured. An interesting observation by Ferguson and Ferguson (1994: 205), is that state-owned firms have problems in attracting investment where limitations are set on where funds can be obtained, as well as if government has limited investment funds available.

As natural monopolies that are government operated, SOCs managing ports may over time face increasing competition from new products and processes. This is due to delayed investment or alternative capital investment sources funding private entities, and with the slower introduction of new technology compared to their private counterparts (Shepherd 1997: 46).

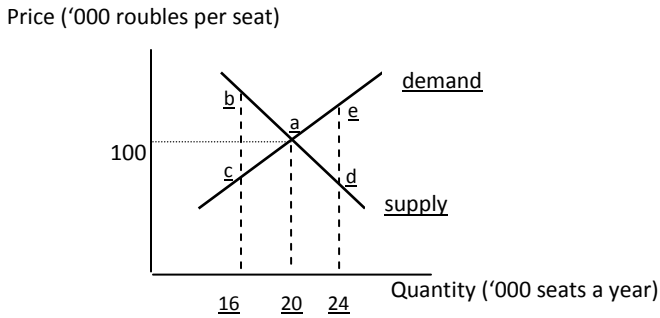


Fig. 2.1 A perfectly competitive market (Png & Lehman 2007: 148)

Png and Lehman as highlighted in Figure 2.1 above provide an example where under perfectly competitive market conditions in a privatised airline industry in Russia, the market equilibrium would be a price of 100 roubles and a quantity of 20 000 seats per year for air travel on the route Novosibirsk to Moscow. In a perfectly competitive market, each buyer and supplier will face the same price, and marginal benefit will equal marginal cost. Under such conditions, the market is deemed economically efficient, as all individuals act selfishly and independently, without any government intervention (Png & Lehman 2007: 148).

Ferguson and Ferguson (1994) provide an apt example of how the gains and losses associated with privatisation can be depicted (see Fig. 2.2, below).

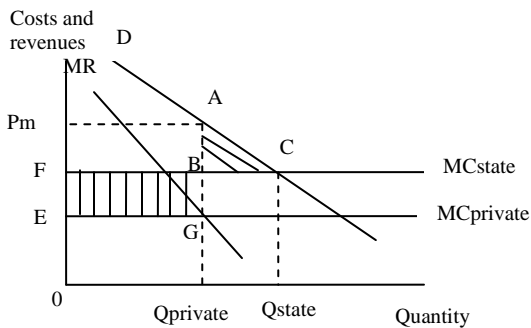


Figure 2.2 Gains and losses of privatisation (Ferguson & Ferguson 1994: 210)

Prior to privatisation, marginal average costs are set at OF , as well as price equals OF when prices are equal to marginal cost. After privatisation, price becomes OP_m and cost becomes OE after management are pressurised to reduce costs and raise prices to monopoly levels. A productive efficiency gain is assumed at area $EFBG$, due to the cost reductions, whilst an allocative loss of area ABC occurs as a result of the increase in price. In theory, privatisation may then improve economic welfare only if $EFBG$ is larger than ABC . Ferguson and Ferguson also argue that over time, this allocative loss may be reduced as new processes and products are introduced, and social welfare may improve (Ferguson & Ferguson 1994: 210).

Ferguson and Ferguson (1994: 211) further suggest that as a result of privatisation, productive gains should outweigh allocative losses under monopoly conditions, which in the long run may improve the welfare of society. Should private participation be evident in a port environment, various elements of the above may be relevant. It is believed that although access to substantial capital investment funds may not be the easiest task, as long run marginal costs decline, the return on investment may be higher. Private entities tend to be more risk-inclined, and are duly rewarded in that regard. The focus is on profit-making and ensuring that operational procedures are streamlined to eradicate

unnecessary time and cost implications, thereby aiding the overall objective of improving the quality and production of service delivery.

Considering port services are private services which may be produced and provided publicly, an interesting observation may be why ports then exhibit monopolistic behavioural tendencies. Prior to the provision of port services substantial investment or substantial costs must be made for the development of a port's infrastructure, including the port dredging, quay wall and berth construction, hinterland linkages by either road or rail - such is considered a significant barrier to entry for other competing firms, so much so that ports, as well as a limited number of feasible locations, may even be considered natural monopolies.

Fischer (2007) provides an apt description of natural monopolies being evident where increasing returns to scale exist. In service provision, with industries such as electricity, water and mass transit - over time average costs diminish at a rate that will sustain a single service provider, and positive profits are not possible due to price equalling marginal cost (Fischer 2007: 38-40). The production of port services may then be considered as having increasing returns to scale with significant capital investment requirements.

The provision of port services may be considered a natural monopoly, but may not necessarily be one that needs to be supplied by government. The existence of increasing

returns to scale, does not necessarily mean that a government monopoly should exist. The options of government may be to grant monopoly rights to a private entity with government regulation taxation (Fischer 2007: 462-463) Alternatively, once capital outlay has been made, port services may be opened for competitive bidding, where multiple suppliers can undertake the provision of services with the intention of increasing the quality and production of service provision.

Ferguson and Ferguson (1994) emphasise that in an instance of natural monopoly, the state may opt to set prices or regulate profits in an attempt to ensure that consumer welfare is not compromised (Ferguson & Ferguson 1994: 197-201). Difficulties in managing the performance of such, are often linked to the state's lack of information on the industry and a firm's behaviour (i.e. cost-padding if operating on a cost-plus pricing model and lack of comparative industry price structures) (Ferguson & Ferguson 1994: 200).

2.1.3 Merit goods and externalities

Another possible argument to be made as to why governments choose to produce and provide private goods publicly, may be that port services are merit goods where services are required to be supplied even if the public does not demand them (Rosen & Gayer 2008: 48). Considering that economic trade is a critical element of a country's growth, along with sea freight being one of the oldest forms of transportation, port services will

always be a good or service demanded by, not only countries with open economies, but also shipping lines who facilitate this trade.

Other reasons why governments may choose to supply port services, include externalities which may result through the provision and production of services. An externality is deemed to occur when the user does not incur the full cost of the harm their actions do to others, nor enjoy the full benefit of the good done to others (Carlton & Perloff 2005: 82). Such externalities may be deemed to be negative or positive, depending on the effect they may have on others. Examples may be the negative impact of pollution or the positive impact of a beautiful garden where individuals who have not physically participated in creating the pollution or garden are either benefited or disadvantaged. (Carlton & Perloff: 2005: 82).

2.2 Port administration in a port system

Mangan and Cunningham (2001:54) refer to four model types of port administration, which are illustrated in table 2.1 (below).

Models	Port functions		
	<i>Land Ownership</i>	<i>Regulation</i>	<i>Cargo Handling</i>
Pure public sector	Public	Public	Public
Public/private	Public	Public	Private
Private/public	Private	Public	Private

Pure private sector	Private	Private	Private
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Table 2.1 Four models of port administration (Mangan & Cunningham 2001)

Table 2.1 (above) depicts the different areas of port administration within a port system. Land owners are those which have invested in the infrastructure provision of the port system - often referred to as port authorities. Regulation is a clearly defined role of controlling the behaviour of not only land owners, but also other stakeholders such as vessel owners and operators, transport operators, and other patrons of the port environment, in order to ensure consistency and adherence to international maritime law.

As can be seen from Table 2.1, ports may perform different functions. Land ownership concerns physical assets such as quay walls, vessel berths, terminals and parking areas. Port regulation concerns vessel navigation and ensuring compliance on matters such as waste disposal and the safety of crew members and vessel operations. Cargo handling concerns – *inter alia* - the loading and unloading of vessels, storage of freight, and the provision of other value-added services. In the above model(s), a purely public sea port would be one where all three elements are under state control. A concern to be noted would be the duplicity in application where a regulatory authority would regulate itself in the provision of other services - which may create inefficiencies in service provision. A purely private port would be the converse of the above, where all three elements are under the control of a private organisation. A complication may exist when all three

elements are provided privately by the same entity, which may develop a monopoly and lead to market failures.

A public/private port system would be one where the land is owned publicly and port behaviour is regulated by the state, whilst the actual operation is privately performed. This allows the state to hold a controlling interest over key elements such as land, infrastructure and regulation, while operations are improved from an efficiency perspective as these are performed privately. It is not always true that operational efficiencies performed in one area will ensure that the port is consistent in its application and ultimately improve its overall objectives, unless the regulation element has similar objectives and acts as an enabler for improved service provision.

A private/public port system would be one where the elements of land ownership and cargo handling are run privately, whilst regulation of port services is controlled by the state. This allows return on investment and profit-achieving behaviour to have a direct impact on those investors who have taken the risks associated with a sea port environment. Conversely, if the land ownership and operational perspectives are controlled by one similar private organisation, it is possible that this could simply be the transfer of one monopoly to another.

Going further, Serrano and Trujillo (2005) note that the literature on port economics recognises two models of port authority or regulatory administration:

- a) *Comprehensive* – where the port authority or regulator provides and keeps direct responsibility for all port facilities and services. Independent operators are banned from performing any activities in these ports, but may in some instances be allowed to perform minor tasks such as refuse collection.
- b) *Landlord* – where the role of the port authority or regulator is limited to the provision and maintenance of basic infrastructure such as berths and roads and essential services such as peripheral security. The rest of the port services such as cargo handling and marine services, however, are rendered by third party enterprises. Ports operating in this manner are Buenos Aires, Rotterdam, and ports in Spain (Serrano & Trujillo 2005: 7).

Recent literature (see Serrano & Trujillo 2005: 7) indicates that there is a new model of port authority or regulation, namely a ‘tool’. This is where the port authority not only owns and manages the infrastructure, but also the superstructure such as warehousing and equipment. Such port services are operated by firms under licence and concession agreements, and ports of note with such services are Antwerp (Belgium) and Seattle (United States).

In South Africa, port administration would be defined as being purely public, in accordance with the Mangan and Cunningham Model (2001), as the SOC (Transnet) currently controls these functions through the Transnet Ports Authority of South Africa

(TPA) - as land owner and regulator of South African ports. Transnet Port Terminals (TPT) - previously South African Port Operations and the cargo operating division of Portnet before that - is responsible for all cargo-handling activities in the seven ports nationwide. An important consideration, is that under these conditions, Transnet as an SOC controls the regulatory authority - which creates ambiguity. As one government entity regulates another, this ambiguity may not enable the firm to achieve its objectives. Aharoni suggests that due to plural principles being evident in SOCs, this creates ambiguity in control, which in turn then does not enable the organisation to achieve its objectives (1986: 598). Specific role clarity should include a regulatory authority that reports directly to government, and oversees the SOC - in this case Transnet.

Like most nationalised sea ports, all port facilities and services are controlled by the SOC, Transnet Port Terminals - i.e. these are purely public. However, the port of Durban would be leaning towards the Mangan and Cunningham 'tool' model (2001), where infrastructure is owned by the port authority, and yet within certain zoned areas, the superstructure is owned by private firms who operate in the cargo handling environment on long-term lease arrangements. In this environment - restricted to the Maydon Wharf area - private firms are permitted to operate legitimate sea freight cargo handling businesses, provided they are not in direct conflict with the business of those operating terminals owned by the state. In this environment, competition is restricted

to specific commodity types which are not core activities to TPT, and does not enable competitive market forces to exist.

There is much debate around which combination of these port functions would operate most efficiently under the control of either the state or the private sector. Should port authority form the only part of state control, and if so, how many private participants should be allowed to operate? Very much like the current arrangement in Durban, allowing multiple suppliers to provide a service does enable competitive behaviour, which would then suggest that if land ownership and cargo operations were to be made available for private participation, multiple suppliers would need to be invited, in order to ensure that monopolistic forces are overcome. However, if only cargo operations were to be made available for private participation, whether this was defined as peripheral services or non-competing markets depends on the ultimate objectives set. If private participation was encouraged for the creation of overall efficiency and the enhancement of consumer choices in the Durban port, such access cannot be limited to specific spheres of a multi-faceted operation. Furthermore, as mentioned above, if the overall regulatory strategy is not aligned to the set objectives, such an invitation to the private sector may not have the desired impact. While the international trend is to move from a purely public port towards that of being purely private, certain variations exist due to the different influencing factors that are prevalent in particular countries.

Another vital consideration would be whether private participation in ports should be implemented in part or whole. Although port services are considered private goods, and in particular circumstances as in South Africa are provided publicly, the privatisation of port-handling services, port land ownership, as well as the port authority, may lead to merely a transfer of monopolistic power from one party to another. Moving towards a purely private model may have benefits such as improvements in investment, infrastructure, and managerial skill. However, the negative impact of monopolistic behaviour in price and quantity determination, may overcome the benefits. In the event a purely private model is opted for, then it would be beneficial to offer such to multiple service providers, rather than a single one. However, in instances where even multiple service providers are selected, possible collusion between the parties can be eliminated through government regulation. By the establishment of an independent regulatory body to oversee private port participators and their behaviour, the state can ensure competitive market practices are maintained. Various forms of regulation can be implemented through privatisation or concessions agreements, including price levels or structures, the rate of capital investment and expected returns, and long-run marginal costs (Shepherd 1996: 403-405).

Although state regulation may be effective in ensuring that competitive behaviours prevail, four economic issues have been raised by Shepherd (1996):

- a. The correct criteria for state regulation should include natural monopolies, where price discrimination is severe, output fluctuation is high with wide variations between

costs and demand, as well as physical connection to consumers being limited - so making the ability to change suppliers difficult. The borders of regulation are often wide and debatable.

- b. For efficiency purposes, price should be equal to marginal cost. State regulation relies heavily on firm information with regard to what marginal cost is, and regulation can only be efficient if margin-cost pricing is maintained.
- c. Regulation has resulted in an “All Cost Rise” which has been based on a cost-plus pricing structure, which over time a firm’s total costs increase - which eventually results in price discrimination. Ensuring marginal-cost pricing is implemented, deters such behaviour.
- d. The rate-base regulation method where the state regulates the amount of capital investment, the expected returns and subsequent price levels, may induce the firm to increase the value of its capital rate base rather than reduce it. In certain instances, firms may opt to increase their value of investments such as through new technology or capital-intensive methods, or depreciate assets slowly, which will enable them to discriminate on prices. For regulation to be effective, state awareness and monitoring will need to be complete (Shepherd 1996: 405-408).

In Baird’s analysis (2002) of the world’s top 100 container ports, the International Association of Ports and Harbours (IAPH) Survey of 1999 assesses the extent of public and private sector intervention in ports. At the time, 92% of all ports were public organisations, which were either public agencies or a department of government. The

few private ports that responded were evident in the United Kingdom, where the policy adopted was the disposal of port property rights, duties and obligations. The IAPH noted that of all port authorities, only 7% were private, and the remainder were publicly run. This indicated the behavioural premise that governments prefer to control port regulatory aspects in general.

With regard to port assets, the IAPH Survey indicated that breakwaters and access channels were mainly owned publicly, with private ownership being negligible. A port authority or a public body owned almost 90% of the top 100 container terminal land publicly, whilst 65% of container terminal cranes were owned and maintained by them as well. A sizeable 22% of container terminal cranes were privately owned worldwide, however, which is indicative of the increasing trend to move cargo-handling facilities and infrastructure towards private ownership, in order to improve efficiencies.

Further analysis by Baird with regard to port services' ownership (Table 2.2) is illustrated below ('Other' ownership refers to a public body or government department):

Criteria - Port Navigation Services	Port authority ownership (%)	Private ownership (%)	Other (%)
Navigation aids	56	12	32
Harbour master	54	6	40
Dredging	55	26	19
Pilotage	42	28	30
Towage	40	31	29

Criteria - Stevedoring facilities in container ports	Port authority ownership (%)	Private ownership (%)	Other (%)
Stevedoring	34	36	30

Criteria - Bulk and other terminal operations	Port authority ownership (%)	Private ownership (%)	Other (%)
Bulk terminal operations	30	37	33
Other terminal operations	38	34	28

Table 2.2 Baird's (2002) analysis of ownership of port services in the top 100 container ports

With regard to port services, port authorities have a significant role in providing navigational services, warehousing and port information services, while private companies mostly provide other services such as ship's agency, land transport and shipping. With 56% of all navigational aids and 42% of pilotage services offered in the 100 ports assessed falling under port authority ownership, most vessel arrivals and departures still remain under state control, for safety reasons (Baird 2002: 272-276). Interestingly, although most container terminals and port services are still operated by public authorities, bulk and other terminals show a significant share of ownership by the public sector. This is an interesting observation, as bulk and break-bulk terminals globally, have become more attractive for private participation.

The most common forms of port privatisation noted by Baird (2002) in relation to container terminals, have been terminal concessions and leasehold arrangements (52%), while build-operate-transfer (BOT), joint ventures and outright sales of port land share comprise the remainder. Other forms of privatisation largely relate to shorter-term terminal rental, or the formation of a separate terminal, which is partially or wholly owned by the port authority or public body (Baird 2002: 278). The main reason for these options is based on the state's objectives to retain a share in the operation, with the intention of having some form of control for a period of time. By doing so, the state can ensure that objectives are achieved and negative effects are managed.

With increased awareness of global competitiveness, ports with their strategic positioning are under increasing pressure to increase efficiency, to improve handling rates, to reduce vessel port stays, and ultimately to lower costs. Along with the other objectives and challenges listed above, ports are soon to undergo a metamorphosis, and whether these objectives are achieved and relative challenges are overcome, will be interesting to note.

2.3 Port competitiveness

There is very limited empirical evidence that the relationship between a port's ownership structures will have a positive impact on its efficiency. Although privatisation suggests an improvement in efficiency, it may be important to understand which elements of a port's administration would be candidates for privatisation.

As port landownership remains the key determinant in assigning property rights, state control of this asset is preferred. A transfer of such property rights to private individuals or firms would reduce state control, and have a negative impact into the state's ability to regulate. Port authority - as the Mangan and Cunningham model suggests - can be a candidate for private participation, but such instances are rare as the state remains liable for the enforcement of regulations. Port operations remains the ideal candidate for private participation, due to the ability of the state to encourage efficiency improvements as well as a port's attractiveness in order to improve trade.

A study conducted by Tongzon and Heng (2005), suggests that of the sample of ports assessed across the world, private participation in the port industry can improve port operation efficiency and a port's competitiveness. They note eight determinants of port competitiveness in a container-handling port, which they believe enable a port to draw additional business:

a. Port (Terminal) operation efficiency level

The speed of container handling and vessel turnaround time relates to the productivity of the port's operations

b. Port cargo-handling charges

As port charges constitute a significant part of transportation costs, the lower these are, the more competitive a port is relative to its rivals.

c. *Reliability*

The reliability of a port's operations affects its overall performance and its attractiveness to shipping lines.

d. *Port selection preferences of carriers and shippers*

As vessel sizes increase and shipping schedules are enhanced to incorporate faster transit times, shipping networks are rearranged to improve ship efficiency.

e. *Adaptability to the changing market environment*

As indicated above, the shipping market is dynamic and a port's flexibility in adapting to these changes is critical to its competitiveness.

f. *Landside accessibility*

As also mentioned previously, ports having excellent intermodal transfer points as a result of their geographic location, and are favoured given that quick and safe transfer of goods is critical in attaining the lowest vessel turnaround time.

g. *Product (service) differentiation*

Ports which offer greater value to their users through their products or users, are deemed to offer economies of scope - i.e. when there is diversity of services offered at a relatively competitive price (Tongzon & Heng 2005: 405-424).

The above list is by no means complete. Additional elements that may need to be taken into consideration include: *price and quality of service; geographic location of a port.*

All of the above competitive elements have a direct impact on a port's ability to remain attractive to shipping lines and to promote trade. Measuring the above elements once port privatisation has taken place, would provide empirical evidence on the impact of port privatisation.

2.4. Measuring port privatisation

Qualitative methods in assessing the impact of port privatisation on a port's competitiveness and efficiency are quite complex and detailed. Thus, a summary of the Tongzon and Heng (2005: 405-424) analysis is presented below.

Using a stochastic frontier and inefficiency model, all eight criteria of a port's competitiveness were assessed by taking sample ports' statistics and developing competitiveness indices for each. Of the 25 ports assessed taking into consideration their ownership models, the findings suggest that a port's competitiveness is determined by certain factors, some of which are beyond the control of port authorities and operators. However, aspects of the port's operation efficiency (productivity) and adaptability (flexibility) to market changes, are those elements which can be affected by port operators. Statistically, these two variables had the most significant effect in the analysis, and understandably so, as they represent the quality of the services provided by the port operators. However, the empirical results suggest that private participation in port operations is in fact useful in improving their efficiency, but full privatisation of a

port may actually be detrimental. The study showed that the best extent of private participation in a container port would be one where private sector participation is limited to the 'landowner and operator' functions, while the port regulation remains public. This means that private finance, operation and management should be used instead of state funds and administration, while the state should maintain its role as regulator.

Another finding by Tongzon and Heng (2005: 405-424), was that as operational efficiency of a port is crucial to its competitiveness, port authorities can use private participation in port operations to gain a competitive advantage. As shipping lines and their clients pay more attention to a port's operational efficiency, this speaks to fundamental policy decisions that need to be taken by port authorities. It was also found that an important factor determining a port's competitiveness is its adaptability to client needs, and the ports that performed highest were those who understood their market demands and continuously tried to exceed such through their products and services.

International ports operating on a partially public and private model, where the port authority is limited to the provision of infrastructure (landowner) and essential services, with the rest of the port services such as cargo handling and marine services being provided by private firms - are viewed as being the benchmark for other ports to aspire to. This model has become increasingly popular around the world. Serrano and Trujillo

(2005) also note that more recently, ports are adopting this type of port organisation to foster enhanced performance and efficiency (2005: 7).

2.5 Key success factors in port privatisation

Key successes in port privatisation - as highlighted by Lee and Cullinane (2005) - have been attributed to the following factors:

- a) *Strategic location* – A port is considered to be strategically located if located on either a main maritime route, or in or near production and/or consumption centres.
- b) *Level of port efficiency* – Although geographical location is a prime factor contributing to a successful shipping hub operation, other competitive factors are also critical, and are influenced by management structures and labour relations. With regard to private ports, Felixstowe in London and La Spezia in Italy have revised management structures, and have addressed labour issues to ensure that productivity is competitive.
- c) *High port connectivity* – A recent study by UNCTAD (Lee & Cullinane 2005: 164-173) proposes that networks formulated around transshipment ports - where different trade routes intersect and interconnect - have replaced traditional port-to-port routes. Shipping lines then are allowed more flexibility to plan shipping routes around those which experience heavy regional traffic flows. Feeder operations from these hubs then allow larger vessels to be utilised more efficiently.

d) *Adequate infrastructure* – A port’s infrastructure dictates its ability to handle vessels and container flows. Physical infrastructure should include not only the number of berths, the number of cranes, yards, tugs and storage capacity, but also effective intermodal transport such as road and railway linkages. A port’s ability to feed efficiently to its hinterland, together with its storage capacity, is reflected by the number of vessels that call per annum. This is because more efficient ports are turning more ships around - meaning that more port calls can be made. Vessel delays in waiting to berth are reflective of the converse - i.e. the port’s inability to move cargo through its facilities faster. Comparisons of international ports’ infrastructure are reflected in Table 2.3 (below).

	No. of container berths	No. of container ship calls	Delays (hours)	No. of along-the-shore cranes
Port of Singapore	37	24,015	2.3	115
Port of Klang	13	4,889	-	31
Port of Tanjung Pelepas	6	-	-	-
Port of Bangkok	20	2,415	-	-
Port of Manila	10	5,463	22	19
Port of Rotterdam	30	5,544	1.7	66
Port of Melbourne	12	823	-	16
Port of Auckland	3	2,381	-	7
Port of Felixstowe	13	2,667	0.6	29

Source: Taken from Tongzon in Lee and Cullinane 2005:170

Note: - not available

Table 2.3 Port infrastructure comparison of international ports (Lee & Cullinane 2005:170)

e) *Adequate information systems* – Moving into the 21st Century requires the implementation of modern and sophisticated information technology. With increased volumes being handled at ports, faster transmission of goods from the

terminal gates to the ship's side is needed, and can be enabled by the automation of documentation and goods processing.

- f) *Wide range of port services* – With any ship calling in port requiring more than one service type, the range of services offered must enable a ship to complete the necessary cargo requirements and other necessities such as bunkering, pilotage and ship repairs (if necessary), as well as warehousing or cold storage facilities for perishable goods. In order for the smooth transition of goods through the port to occur, the port's link with the rest of the supply chain must ensure - with the help of modern technology - that the services provided enable efficiency at all points (Lee & Cullinane 2005: 164-173).

One addition to be made to the Lee and Cullinane success factors, is the sourcing of appropriately experienced and skilled resources such as management and labour. In order to ensure the business is effectively operated and managed, yielding maximum profit results appropriate skills need to be sourced and retained. By securing highly skilled labour and an experienced management team, optimal benefits can be achieved.

Chapter Three

Port Privatisation in Reality

3. Privatisation in developing nations

Most developing countries face a formidable array of economic and social challenges in raising economic production to improve standards of living and to narrow the ever-widening gap between such countries and first world nations. While developed countries have followed a path of industrial development a lot earlier than their developing counterparts, developing nations have been faced with more pressure to improve their trade with the rest of the world, in order to be globally competitive and to enable growth. This is not an easy task, given the number of internal and external challenges they may face as highlighted by Pirie in Chapter 1 (1985: 8-16). From a lack of investment in infrastructure over the years, many developing nations now seem to have taken hold of their future, and are becoming economic forces to reckon with.

Advanced countries have at their disposal a wealth of experience, well trained personnel, and access to financial and human resources. Developing nations struggle to obtain investment in infrastructure- in particular pertaining to basic services such as water, health, telecommunication and transport. Kerf and Smith (1996: 1) note that poor infrastructure in Africa represents a major constraint on industrial

competitiveness, and as international trade requirements with Africa increase, its market access points, such as ports, need review.

3.1.1 Developing Africa

With considerable investment in Africa after the turn of the century, in particular in the areas of water, sanitation, telecommunication and mining, Africa is no longer a 'black hole' where investment may seem to disappear. The African Development Bank records an estimated total foreign direct investment (FDI) of USD424 billion for 2007, of which 17% was intra-African FDI - as countries such as South Africa, Nigeria and Libya seek opportunities within the region. As emphasis now has shifted from primary production to more value-added sectors, investment in banking, communication and infrastructure remain key areas of focus for FDI (African Development Bank and OECD 2010: 38).

The global financial crisis of 2008-2009 dented Africa's FDI, and with recovery slow and fragile, investment will hopefully similarly improve. Despite the crisis, economic growth remained strong, with an average Gross Domestic Product (GDP) growth rate of 6% over the last three years (African Development Bank and OECD 2010:31). Despite the global financial crisis, economic growth in larger African economies remains stable, and the Millennium Development Goals - as set by the United Nations - still remain achievable targets, despite certain severe setbacks resulting in them possibly not being realised by the year 2015. Goals such as eradicating poverty and hunger, achieving universal

primary education, and promoting gender equality and empowering women, are areas where some progress has been made. However, there is still much to be done. The African Development Bank and OECD believe that with coordinated effort and support, these setbacks can be overcome and objectives attained.

As economic activity in Africa increases, and FDI and trade flows improve, Africa's transport and logistics infrastructure will be put further under pressure. African countries being plagued with issues like high levels of corruption, inefficient tax systems, and political instability, now are required to attract FDI and encourage sustainable growth. Similarly, how African countries trade and facilitate intra-African trade now becomes of strategic importance in driving the growth of the region. African ports, their infrastructural make-up, regulation, operation and administration, thus need to be of superior quality, to enable effective sea freight movements throughout the region.

Liner and Non-Liner International Cargo traffic	Value (\$'000s) Imports	Value (\$'000s) Exports	Total Trade(\$'000's)	Tonnes Imports	Tonnes Exports	Total Tonnes
Africa	1 859 567	2 301 379	4 160 946	1 282 332	5 815 959	7 098 291
North and Central America	15 259 231	8 586 380	23 845 611	5 809 953	8 916 861	14 726 814
South America	1 475 801	1 171 083	2 646 884	1 602 401	8 681 586	10 283 987
East Asia	27 516 999	29 314 447	56 831 446	10 339 607	231 618 005	241 957 612
South East Asia	36 131 269	26 156 515	62 287 784	32 316 368	28 308 386	60 624 754
South Asia	1 354 482	4 888 705	6 243 187	612 640	26 573 779	27 186 419
Japan & North Asia	20 790 951	43 636 773	64 427 724	8 103 781	315 483 168	323 586 949
Europe	26 122 804	12 117 560	38 240 364	4 328 148	44 161 040	48 489 188
Middle East	4 496 053	3 706 645	8 202 698	7 272 456	7 596 944	14 869 400
New Zealand	5 754 407	7 373 979	13 128 386	3 459 033	5 310 035	8 769 068
Pacific Islands and Papua New Guinea	1 905 368	2 416 261	4 321 629	3 673 548	1 935 835	5 609 383
Rest of World	-	1 025 216	1 025 216	-	2 130 086	2 130 086
Total	143 610 436	142 694 941	286 305 377	83 093 929	686 531 685	769 625 614

Table 3.1 International Sea Freight Cargo Trade FY 2007/08 (values in AUD) [Australian Government: Department of Infrastructure and Transport year ending March 2008]

In terms of Combined Liner (scheduled) and Non-Liner (non-scheduled) vessel traffic as indicated in Table 3.1 (above), Africa remains one of the smallest sea freight trade regions globally. Over 769 billion tonnes of cargo were moved via sea freight internationally in the 2007/08 fiscal year - but barely 1% (0.92%) in weight and 1.45% in value of that traffic was exported, imported or transported via Africa. As a high proportion of African sea freight trade relates to high-density bulk products such as oil and petroleum, enabling the continent to be stronger players, will require ports to diversify vessel handling at the best price. But how can that be done and what impacts will be derived?

3.2 A dynamic port environment in Africa

Due to the accelerated pace of economic development required for developing nations to keep abreast of international change, modernisation of ports is needed, which means increased imports of port-handling equipment and supplies and infrastructural design equipment. This is related to the inability of Africa to successfully manufacture and distribute technologically advanced port-handling equipment and supplies, which are largely built in Europe and Asia.

As economies and subsequently social standards improve, so does the demand for manufactured and unmanufactured goods. Rich mineral deposits in Africa make it vital

that high capacity, bulk-loading terminals are available to accommodate the export of minerals. As a result, substantial change is required to improve port-handling facilities and services across Africa, in order to meet international benchmarks. Similarly, the administration of ports needs to be reorganised to ensure that all service requirements - both technical and commercial - are adequate. Despite the limitations of restricted FDI and lack of international shipping experience in Africa, the revolutionary developments in sea transportation - including the use of larger containers (cellular) for general and high-value cargo and more advanced roll-on/roll-off (ro-ro) vessels for the automotive trade - need to be embraced fairly quickly, if African ports are to remain competitive.

The nature of requirements for ports globally is virtually the same: to provide a fast, efficient handling and dispatch of vessels, whilst ensuring a rapid, safe and economical flow of cargo through the port to final destination. Without an efficient port, the costs of living would be higher, industrial development more difficult, and the trade of goods would be more expensive. Hence, economic progress is highly dependent on the efficiency of the port system.

According to the American Association of Port Authorities (AAPA), the port of Singapore remains the busiest port in the world - ranked at number 1 in both cargo and container categories, with 515 million tons of cargo throughput and 29 million twenty-foot equivalent units (TEUs) in the 2008 year. The highest ranking African port for cargo throughput is Richards Bay, with 84 million tons - ranked 45 in the cargo throughput

category. Durban, with 2.9 million TEUs handled, was ranked 39 in the container-handling category in the same period (AAPA 2008: 1-2).

If African ports are to rival other developing nations such as Brazil or India, then ports such as Sepetiba in Brazil (ranked 44th in the cargo throughput category) and Nhava Sheva in India (ranked 25th in the container-handling category) pose the nearest challenge, and efficiency decisions should be made on port development and capital investment, in order to reach this status (AAPA 2008: 1-2).

3.3 Africa's port privatisation initiatives

African ports - despite the challenges faced - have followed a limited programme of port privatisation. Evidence available suggests the west and east coasts of Africa have led this movement, with southern Africa following suit. In line with an analysis of port privatisation in developing countries, further analysis was conducted on countries which opted to take the steps towards private participation in port administration and cargo handling - heralding positive results.

3.3.1 East Africa

The ports of East Africa serve as important trade links with India, Asia and China. Although this is thought to be the main reason for the existence of such ports, particular

trade routes with the Southern African Cape Coast and Europe have become more prominent as demand increases. Kenya, Uganda and Tanzania are of particular interest for ships en route to the Far East from Europe. With routes through the Mediterranean Sea, this Eastern coastline of Africa is largely used for replenishment of ship supplies.

On the East African coast, Kenya and Uganda form a formidable team, being the strongest exporters of fresh fruit and vegetables to Europe and the Far East, and also of fish from the lake areas of Lake Victoria and those bordering Tanzania. The strategically placed ports of Dar es Salaam, Zanzibar and Tanga, provide access to most markets. Kenya, with investment largely in improving its farms for export, relies on import material through the same nodal points.

In March 2000, the privatisation of the ports of Mombasa and Dar es Salaam was well on track, with Dar es Salaam to privatise its container terminal in August 2000 at an annual lease of USD3 million per year ,and a royalty fee of USD13 per twenty-foot equivalent unit (TEU) handled. Other services have also been earmarked for consideration of privatisation in the near future. Similarly, as with most port privatisations, the port authority maintains majority shareholding over the facilities, and an independent regulatory body was formed to monitor and regulate operations (The East African (a & b) 2010: 1).

In 2006, Dar es Salaam's general cargo facility had received a number of expressions of interest (EOI) from international players, in order to further privatisation (Cameron 2006: 2). Dar es Salaam's multi-purpose, liquid bulk, marine services, as well as single buoy mooring, were open to bids in 2004 - indicative of the trend towards improving development through accessing foreign investment capital and expertise (Cameron 2004: 1). By 2011, partial privatisation has been evident in some of Dar es Salaam's cargo facilities and marine services, and overall port performance improvements have been recognised. As Tanzania moves towards more private participation, both the government and private firms are producing positive results.

With reference to previous chapters, the eastern seaboard of Africa has opted in the main for the partial privatisation of cargo-handling services in containerised and general cargo handling. While Tanzania opted to privatise its container terminal in Dar es Salaam, with future considerations for break bulk handling, Mangan and Cunningham's public/private model seems to have been adopted (Mangan & Cunningham 2001: 54). While land ownership and port regulation remain within the control of the state, the inclusion of private participation in cargo-handling facilities is enabling much needed investment and port development.

3.3.2 West Africa

Ports along the West Coast of Africa are no different from their eastern counterparts, with Ewens (2002) recording Nigeria's intention for partial privatisation of its ports' services and infrastructure through 'concessioning or commercialisation'. Nigeria's objectives were to attract investment, increase profitability and accountability, while also improving operational efficiency. They also hoped to reduce corruption and theft, which they considered to be rife in the port environment. Nigeria's main reason for port privatisation, however, was congestion at its ports, which was believed to stifle trade and unnecessarily incur additional cost burdens on the state. Other West African countries such as Senegal have also contracted out specific services such as container handling, crane operation, shipping agents, and aspects of their port management (Ewens 2002: 41-42).

In 2006, the Apapa container terminal at Lagos, Nigeria, was privatised to APM Terminals, who a few months later had already made notable improvements. The delays in the Apapa terminal were reduced from 30 to 9 days in ten weeks, a 70% improvement. The number of container crane moves increased from an average of 600 in June 2006, to 750-850 in July and August 2006 - a minimum 25% improvement in a mere two months. Container deliveries to road transportation improved from 250 to 450 per day. As APM Terminals made investment into ageing infrastructure, these changes were attributed to the increased number in the fleet of equipment - such as reach stackers, forklifts and trucks with trailers for terminal hauling (Cameron 2006: 2).

More recently - in October 2010 - APM Terminals secured a 25 year concession agreement for the operation of the Port of Monrovia in Liberia, which included aspects of port management and the upgrading of facilities. This agreement is believed to require an investment of USD120 million over 25 years. The Liberian government's objectives were mainly centred on port infrastructure improvements, to upgrade the present facilities to international standards. As APM Terminals is already well established in West Africa, with facilities at Abidjan in Ivory Coast; Cotonou in Benin; Tema in Ghana; Onne in Port Harcourt, Nigeria; Douala in Cameroon; and Pointe Noire (still under development) in the Democratic Republic of the Congo - the port of Monrovia in Liberia will be its first 100% owned terminal in Africa (Hutson 2010).

Again a public/private model has been opted for in most West Africa ports, enabling much needed investment in infrastructure from private companies. Subsequent improvements in port productivity are noticeable, and it would seem that APM Terminals is set to play a significant role in West and Central Africa.

3.3.3 Southern Africa

As East and West African countries take the necessary steps to improve their infrastructure and operations - western and central Africa seem to have taken the lead in aspects of port privatisation. Southern Africa has, however, been slower to respond.

In September 2010, Transnet Port Terminals (TPT) - a subsidiary of Transnet - informed the press that discussions with Sri Lankan private operators had been closed in 2007, and that the rumours that such discussions had been resurrected were incorrect. TPT indicated that there were no plans to privatise its ports, and the government intention was for “the country’s ports to facilitate trade, rather than being revenue generators” (Cargosystems.net 2010: 1-2). Although significant efforts have been made by other African ports to consider improving their competitiveness on the continent, South African ports have not taken steps to improve their competitiveness in the sea freight industry. South Africa’s neighbour, Mozambique, seems to have followed the example of its western and eastern African counterparts. The port of Maputo - strategically located in the south of Mozambique - offers a viable alternative to the South African ports of Durban and Richards Bay, and is the only port assessed in Mozambique.

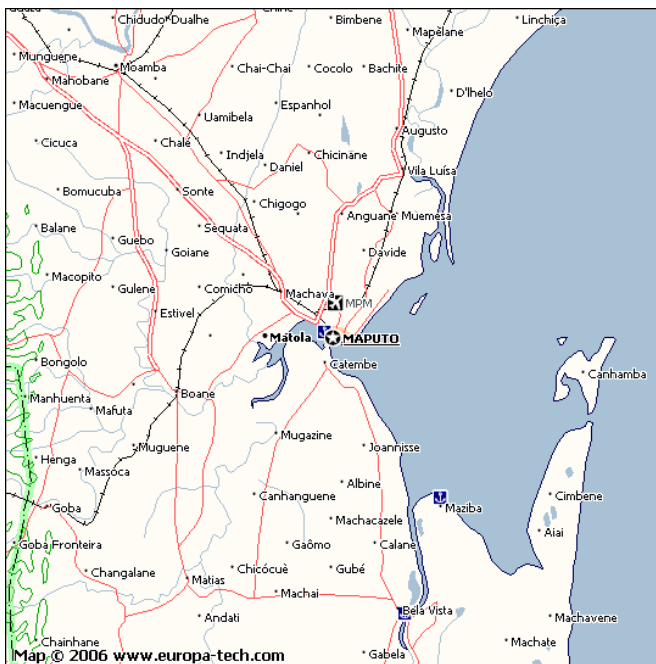


Figure 3.1 Port of Maputo, Mozambique (Source: www.europa-tech.com: 2006)

The port of Maputo (Fig. 3.1, above), is situated on the south coast of Mozambique, and had been allowed to decay during many years of civil war. Having a strategic geographical position serving the southeastern coast of Africa, as well as being an important trade link for landlocked countries such as Zimbabwe, Botswana and Swaziland with the Far East, private participation was recognised to be an avenue to improving not only the port's status as a cargo and passenger port, but also to lead its port services and operational improvement strategy (Hutson 2010: 1).

With effect from September 2000, the government of Mozambique handed the port of Maputo over to the Maputo Port Development Company (MPDC), a consortium including the Mersey Docks and Harbour Company (the second largest port company in the United Kingdom), and Standard Corporate and Merchant Bank as lead financiers. It was the first public/private participation deal of its kind in Africa, with majority shareholding (51%) being held by the MPDC, and the remainder by the government (Hutson 2010: 1). The strategy adopted, allows private participation to assist with several objectives:

- i) The procurement of investment capital to upgrade port facilities.
- ii) Sourcing much needed international experience to lead organisational change.
- iii) Developing and implementing key strategies to improve the port's international competitiveness.

- iv) Improving the port's economic standing by improving international trade flows and securing foreign exchange.

The MPDC is responsible for all marine-related activities in the Maputo Bay Port Jurisdiction, which includes pilotage, tugs, line handling and dredging services. As part of the concession, certain terminals were included for international trade, while those that already existed under a concession basis, continued so by agreement (Hutson 2010: 1).

As part of Mozambique's strategies towards economic recovery, a 25 year concession to manage and develop the port was awarded to the MPDC, which took over in April 2003. Later in 2003, MPDC launched its development plan, by implementing a USD70 million (approximately R455 million) priority works programme, designed to quickly restore the basic essentials of an international trading port. Amongst many other key improvements, the approach channels of the port have been restored to design depth (-9.5m draught), continuous port operations have been established, security has been rigorously tightened, internal roads and railways have been rebuilt, and new handling equipment and training schemes have been introduced. As a direct result of such improvements, more and more vessels have been recorded docking in the Port of Maputo, which is now a thriving shipping hub for ships feeding cargo into the SADC region (Hutson 2010: 2).

Maputo has direct road and rail connectivity with Johannesburg (550 km), the Mpumalanga and Limpopo Provinces of South Africa, Swaziland and Zimbabwe. This has

allowed Maputo to challenge traditional South African export cargo such as granite from Mpumalanga and stainless steel from Limpopo - over the last 5 years. With its cohesive strategy intertwined with that of the government, cargo dues have been reduced, enticing even further international trade through the Port of Maputo. In addition, the main rail line to central Zimbabwe has been rebuilt with generous American assistance, and this offers five day transit times between Bulawayo and Maputo. This improvement will enable increased trade for landlocked countries such as Zimbabwe, and increase the attractiveness of the port of Maputo. Maputo is fast becoming the gateway for sea freight into previously quite costly and logistically complex areas (Hutson 2010: 2). Together with the South African government, work on upgrading the main railway line from Maputo to South Africa has begun, creating capacity for 13 million tonnes per annum by 2010 (Hutson 2010: 2).

In January 2002, sea freight throughput in the Port of Maputo had dropped to 1.2 million tonnes per annum, but as a result of new investment and increased interest in the port, 6.2 million tonnes was achieved in July 2005, a rate of growth that underlines market confidence in this port's future. Current cargo capacity in the Port of Maputo is well in excess of 20 million tonnes per annum (Hutson 2010: 2).

With more recent investment in the Port of Maputo, industries such as automotive imports, fresh produce exports, and bulk mineral exports, have increased Maputo's competitiveness with the Port of Richards Bay, which falls under the control of Transnet Port Terminals (TPT). Faced with challenges, a previously under-developed port has now

provided an alternative nodal point for ships wishing to access South Africa at a competitive price, providing handling services comparable with South African ports, as well as with significantly less port delays and no port congestion.

With port regulation still under government control, much of, if not all, port operations in Maputo are currently operated privately, following a public-private model. Such improvements will not only provide better trade options, but will also foster greater investment opportunities for Mozambique.

3.4 South American port initiatives

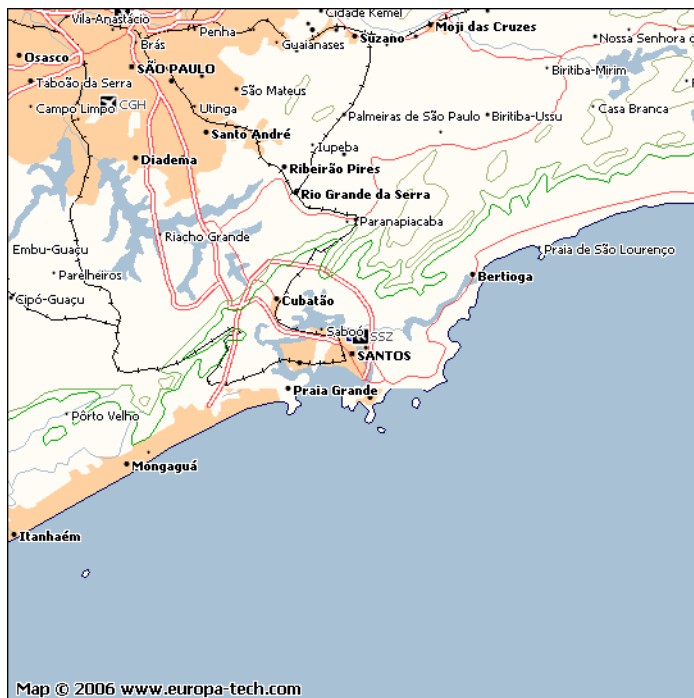


Figure 3.2 Port of Santos, Brazil (Source: www.europa-tech.com: 2006)

South America - considered to be a developing continent comparable to Africa in terms of infrastructure limitations and socio-economic challenges - provides further examples of where port privatisation has proved successful in design and impact.

Santos is situated 65 km from São Paulo, the biggest city in Brazil. It is served by a big transport complex, and within a 100 km radius, two international airports complete its intermodal status. The port is predominantly known for its prime position in close proximity to major industries in São Paulo, as well as regions in southeast, south and central-west Brazil (Hutson 2010: 2).

Since privatisation in 1993, Santos has embarked on necessary investments to guarantee its position as a strategic hub port in Brazil's southeastern region. The privatisation process, which started in 1993, allowed businesses in the areas of port operations, port works, leasing of areas, port equipment, containers and industrial centres, to obtain leases to operate. Since the inception of this undertaking, both cargo movement and productivity has increased. Through the Santos Port Leasing and Partnership Programme (SPLPP), twenty four (24) areas have been leased, and another twenty seven (27) are under review - including terminals for grains, fertiliser and a second container terminal (Hutson 2010: 3).

The SPLPP attracted private undertakings to improve the port's cargo flow, and by 2003 70.28% of the port was already leased or under leasing process, and with the figures for

new investors and interested companies growing each day. The SPLPP aims to transform the Port of Santos into a more modern, agile and well-equipped port, which is more competitive globally, and with lower tariffs and better service. Santos is operated by private undertaking by means of leasing and partnerships, while overall administration is undertaken by the Port Authority, which is still under government ownership (Port of Santos 2011). In line with the Mangan and Cunningham model, a public/private model is evident in the Port of Santos (Mangan & Cunningham 2001: 54)

3.5 South East Asian port initiatives

By simply focussing on developing countries and port privatisation models which are very similar in design and implementation, an analysis would be incomplete if flagship ports in Asia were not considered. Considering the phenomenal growth in the region, valuable learning can be drawn from this.

Post-Second World War, East Asia - comprising Japan, the Asian newly industrialising economies (NIEs), the ASEAN 4 (Association of South Eastern Nations), and China - has enjoyed an unprecedented record of high and sustained economic growth. East Asia's prosperity is evidenced by its real GDP growth rate. In the period 1980 to 1997, the Asian NIEs (Hong Kong, Singapore, Taiwan and Korea), the ASEAN 4 (Philippines, Malaysia, Thailand and Indonesia), and China, have exhibited an average real GDP growth rate of 7.3%, 5.9% and 9.9% respectively, compared to the world average of 3.2% for the same period (Lee & Cullinane 2005: 10).

This growth was largely due to booming international trade being conducted regionally and globally, and created a dynamic impact on the shipping environment in the region. This economic prosperity can be traced back to the 'Plaza Accord' by the Group of Five (the US, Germany, Britain, Italy and Japan), which intervened in the currency markets by depreciating the US dollar significantly against the yen, which in turn allowed other regional countries (such as Taiwan and Korea who had already experienced currency appreciation) to be more competitive. As a result of high labour costs and this appreciation, the countries had to move production operations from the Asian NIEs to the ASEAN countries and China - to at least maintain some financial stability. As a result, international trade with East Asia has grown enormously, generating a remarkable record of high and sustained economic growth, unprecedented in any other region in the world (Lee & Cullinane 2005: 11). Shipping volumes have thus risen tremendously, generating a large concentration of container traffic in East Asia. For years, East Asian ports have accounted for half of the world's top ten container ports. In particular, container throughput of four hubs in the Asian NIEs - Hong Kong, Singapore, Kaohsiung and Pusan - accounted for almost a quarter of the global trade.

3.5.1 The Port of Singapore

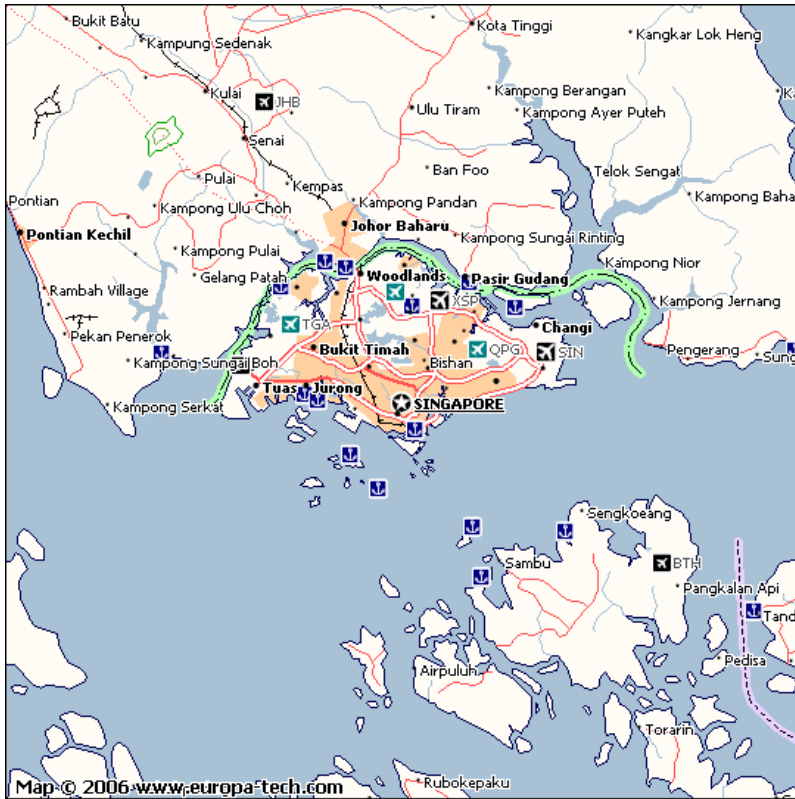


Figure 3.3 Port of Singapore (Source: www.europa-tech.com: 2006)

An advocate for private participation in ports, is the Port of Singapore. Singapore is one of the busiest container ports in the world. For years, this was not the case, as it lagged behind Hong Kong in terms of container throughput. However, in 1998, in the midst of an economic crisis, its container traffic grew by 7% to 15.3 million TEU (Twenty-foot Equivalent Units), surpassing that of Hong Kong. In shipping tonnage, the Port of Singapore is ranked as the world's busiest port as highlighted above, and continues to be the benchmark for other international ports in container handling. In national terms, the port is a major contributor to national income and employment, and despite the

economic crisis, has shown resilience and determination to maintain its status (Heng 2005: 12-16).

Since Singapore's full independence in 1965, it has had to compete with other ports in the region to attract shipping and trade. It has done so by developing an export-oriented economy based on value-added manufacturing. By the 1980s, maritime trading activity had ceased in the vicinity of the Singapore River, except in the form of passenger transport, as other terminals and harbours took over this role (Heng 2005: 12-16).

The Port of Singapore Authority (PSA) was established on 1 April 1964, and at the time of corporatisation in 1997, it was renamed the Maritime Port Authority of Singapore. It is a statutory board whose main task is to regulate and control navigation and shipping in the Port of Singapore, and falls under the Ministry of Communications. The PSA has been responsible for the design and implementation of appropriate strategies to ensure the port remains efficient and can cope with a dynamic shipping environment. Such strategies include the 'Berth Appropriation Scheme' - since 1979. With this, major shipping lines are given preference in berthing at a designated berth, thereby ensuring shipping lines can synchronise berthing with port calls, and facilitating efficient ship turnaround times, with a minimum tonnage guarantee and the use of ship-nominated stevedoring services (Lee & Cullinane 2005: 177).

Terminal operations are presently coordinated between the PSA and Jurong Port - which since corporatisation or privatisation in 1997 have been able to provide services with greater speed, quality and reliability. To illustrate this, the turnaround time of ships can be largely measured in the average dwell-time of cargo in the terminal. The longer the ship stays in berth, the higher the cost that the ship, and in turn its customers, will have to pay. The Port of Singapore records a 12 hour ship turnaround time, which is fairly competitive against a 23 hour ship turnaround time as recorded in the Port of Rotterdam - one of the world's biggest shipping hubs (see Table 3.1).

Ports	Additive	CCR
1 Melbourne	0.6954	0.4383
2 Sydney	1.0000	1.0000
3 Brisbane	1.0000	1.0000
4 Fremantle	1.1820	0.2747
5 Adelaide	1.0000	0.7564
6 Rotterdam	0.7116	0.5697
7 Tacoma	1.0000	1.0000
8 Zeebrugge	1.0000	1.0000
9 Wellington	1.0000	0.3058
10 Montreal	0.6767	0.3871
11 Baltimore	0.6000	0.3075
12 Auckland	1.0000	0.8446
13 Le Havre	1.0000	0.4219
14 Hong Kong	1.0000	1.0000
15 Kaohsiung	0.7939	0.6412
16 Felixstowe	1.0000	1.0000
17 Puerto Rico	1.0000	0.9944
18 Jakarta	1.0000	0.9157
19 Manila	1.0000	0.3792
20 Klang	1.0000	1.0000
21 Singapore	1.0000	1.0000
22 Bangkok	1.0000	1.0000

Note: CCR is the Charnes, Cooper and Rhodes (1978) DEA method. Additive is the additive DEA model of Charnes et al. (1985). A score of 1 indicates that the port is efficient.

Table 3.2 Efficiency ranking of international ports

Table 3.2 (above) represents Tongzon’s qualitative technique - data envelopment analysis (DEA) - to measure the Port of Singapore’s overall level of efficiency compared to other countries around the world (Lee & Cullinane 2005: 166). Port efficiency can be measured depending on which aspects of the operation are being measured. The Charles, Cooper and Rhodes (CCR) model is based on a constant returns to scale assumption, where under a variable returns to scale assumption, Singapore is also found to be efficient with a score of 1.0000.

	Port Charges (US\$ per ton)	Ship turnaround time (hours)	Connectivity to other ports
Port of Singapore	155.0	12.0	740.0
Port of Klang	50.0	12.5	500.0
Port of Tanjung Pelepas	-	-	2 major shipping lines
Port of Bangkok	23.4	-	-
Port of Manila	24.7	-	-
Port of Rotterdam	-	23.0	1 000.0
Port of Melbourne	23.3	-	200.0
Port of Auckland	26.5	14.9	160.0
Port of Felixstowe	1 051.0	-	365.0

Notes: - Not available; Ranks from 5 (highest) to 1 (lowest): Port charges are calculated using the following exchange rates US\$1=S\$1.74, US\$1=RM3.80, US\$1=THB42.8, US\$1=450 pesos, US\$0.49=AUD\$1, US\$1=NZ\$2.47, US\$1=0.6912 pounds

Table 3.3 Performance indicator comparisons of international ports

Based on Table 3.3 (above), the Port of Singapore has outshone the ports of Rotterdam and Auckland in ship turnaround time. Furthermore, in Tongzon’s analysis, it does the same in labour efficiency, crane efficiency and the utilisation of port assets as a whole (Lee & Cullinane 2005: 166-168). With private participation in both operations and administration in Singapore indicative of a model closer to private/public as illustrated by Mangan and Cunningham, it has been argued that improved performance is partly

due to revised handling procedures and focused management strategies, as a result of private participation (Mangan and Cunningham 2001: 54). The Port of Rotterdam follows Singapore in port performance and efficiency ranking, with over six private container terminals within its boundaries, all of which compete openly - thereby placing emphasis on service and ship turnaround times. Again the argument holds true that those ports where private participation is encouraged in areas of cargo handling and port administration, enjoy greater service enhancements and ultimately draw long-term sustainable business opportunities.

With increasing inter-port competition, the Port of Singapore has adopted a two-pronged approach of competition and strategic alliances with other ports. Its plan to remain the most-preferred transshipment port in the world is based on its ability to maintain its status as the most efficient port in East Asia, and through this vision, attract more volumes than any other port.

Despite efforts to retain its position as a dominant port in South East Asia, the Port of Singapore subsequently lost two of its largest shipping lines - Maersk Sealand and Evergreen - in May 2002, to the competing port of Tanjung Pelepas (Malaysia), as shipping lines sought to reduce handling costs. An emerging trend in the 21st Century is no longer supply driven, but demand driven where shipping lines - as consumers of port services - require cost effectiveness, long-term relationships and preferential berthing policies. This initiative was then countered by the PSA, with a reduction in price and

long-term contracting to secure volumes for a period of five years (Van de Voorde 2005: 260).

The Port of Singapore provides an exemplary model for port privatisation. If a foundation of clearly-defined objectives is laid, together with comprehensive strategies that are dynamic, a port's competitiveness can move from mediocre to extraordinary.

3.6 Port privatisation lessons

The ports of Maputo in Mozambique, Santos in Brazil, and Singapore in South East Asia, illustrate the positive impacts of not only privatisation, but also rather substantial investment from the private sector when government either could not or would not undertake the same. Investment in infrastructure and the maintenance thereof, its equipment and improved technologies, creates long-term assurances that the facilities are of international standard and fit for vessel handling - and hence improve a port's competitive standing. African examples highlight the critical nature of quality infrastructure and investment, which has led to not only aided port productivity improvements, but also economic growth. However, government control is still evident in all cases where private participation in ports has been introduced, albeit in the regulatory and administrative roles. Access to international experience and new technology has contributed to productivity enhancement.

One fundamental flaw in the analysis of highly-performing ports, is whether economic growth facilitated port development through its period of transformation, or was it the reverse? Singapore, being strategically located along a popular sea freight route, has enjoyed the benefits of exemplary regional growth. The NIE's and ASEAN 4 have successfully implemented economic growth strategies, which has impacted on the trade flows intra-Asia, as well as sea trade in the region. An argument can be made as to whether economic growth or its privatisation policies acted as the defining enabler to Singapore's port performance. Based on port performance figures, as highlighted above, economic growth was most likely a contributor to improving port performance, and port development would have been a factor enabling economic growth.

Management attitudes and objectives play a fundamental role in ensuring that privatisation deliverables are met. Dar es Salaam's Tanzanian Port Authority had undergone a severe restructuring and management shuffle, before any significant progress was recorded.

The recruitment of managerial experience, behaving on profit-maximising principles, can however be counter-intuitive if there are no clear directives stipulated by the state in the conditions of sale. In instances of part sale, the government may opt to retain a significant shareholding, thereby still having an influence on company decisions and managerial behaviour. Socio-political strategies such as job creation may clash with profit-maximising behaviour when business efficiencies are being sought. It would then

be critical that such conditions of sale are clarified and agreed to prior to implementation.

Privatisation is not limited only to investment or the political climate. However, they remain core elements in ensuring the projected benefits of privatisation are achieved. Nomvete, Maasdorp and Thomas (1997) - shortly after the advent of democracy in South Africa - highlighted major issues in the South African and Southern African context with regard to privatisation. Obstacles in Africa which contributed towards privatisation not being implemented as rapidly as in the rest of the world, range through severely low levels of private and public investment, an inability to diversify export markets and remain competitive, and neglect of infrastructural investment, industrial progression and addressing regional issues. The failure to open economies for trade, investment and skills migration, can be considered to be the most influential factor which some countries need to heed a lot sooner than others, in order to achieve better results faster.

The obstacles mentioned above are fairly familiar in the port privatisation debate, and by taking such into consideration - investment in infrastructure, technology and skills development, globalisation and a country's trade strategy - a clear path can be set for privatisation to yield positive results. One major element, however, will remain the commitment to a privatisation strategy and a state's political and economic motives that influence such a commitment.

Having a political history that strongly influenced port organisation and operation, South Africa can lend an ear to the experience of others who have overcome the above-mentioned obstacles. Not only has port location influenced inter-relationships between South African ports internally, but the operational dependencies, inter-port competition, and government socio-political strategies, need to be reconsidered. Before an official undertaking can be made, fundamental issues remain. As many ports have considered private participation in operations and management, moving a port towards a 'landlord' ownership structure has proven to be the most successful and popular - as highlighted previously. Many developing countries like India and Brazil - slowly becoming strong economies in a global arena - have undertaken such initiatives and are now reaping the benefits.

South African ports may find it difficult to implement private sector participation, unless clearly defined government objectives are set, and a conducive environment for private participation in ports is created - as indicated in the examples listed above.

Chapter Four

Impacts of Port Privatisation

4. Impacts of privatisation of ports

Port privatisation - like most strategies - has both positive and negative impacts, not only directly on its own facilities and management, but also on interdependent spheres of the economy, including social, technological and environmental aspects. Consideration must be given to indirect consequences such as the impact on labour, as well as consumers and suppliers in the logistics chain.

Recent developments in the sea freight industry such as increasing security measures, advancement in available technology, as well as global environmental consciousness, have become integral parts of doing business. As these developments contribute positively to ensuring safe and secure operational procedures and regulatory compliance in shipping, they do pose additional costs and benefits to the business, which may influence potential investor decisions and ultimately organisational competitiveness and financial feasibility.

4.1 Labour

The Public/Private Infrastructure Advisory Facility (PPIAF) is an advisory body to the World Bank, which was established in 1999 to facilitate privatisation of infrastructural developments across the world. Seen as a multi-donor technical facility operated on sponsorships, its main priority is to provide knowledge and experience to developing countries - to improve their infrastructure through involvement of the private sector. Their Port Reform Tool Kit - freely available on the internet - is a guideline to management contemplating port reform through inclusion of private sector participation. Considering that most port reform emanates from a government decision relating to economic reform, such tools are not commonly used throughout the world, and a more formal consultative approach is often chosen.

The PPIAF Tool kit offers advice on various elements of the privatisation process, from understanding port reform, the legal and financial impacts of port reform, through to the actual implementation of port reform (PPIAF 2007: 1).

Port privatisation objectives, as set out in section 1.5 above, include the following:

- a. Improvement in management expertise, either through the sourcing of new expertise or through development of their own.
- b. The need to improve profitability of terminals through the improvement of productivity - leading to increased revenue and the curbing of costs, including labour costs (one of the largest port cost components).

- c. Access to new technology through private investment in equipment, which may require unskilled labour to become skilled as technologies advance.

The objectives of port privatisation are considered by organised labour unions as having the intent of substantially reducing required labour. As revised working procedures require more skilled than unskilled labour, either labour should be trained to the required level, or replaced with the required skill. Ultimately, the level of transparency between labour unions and management, as well as the relationship, will determine how the privatisation process develops.

The Labour Tool Kit - as published by the World Bank (2010: 2) - identifies that the casualisation of labour in ports becomes more prominent when privatisation takes effect, due to the need to reduce costs. Where overstaffing has been prevalent, ports may need to replace permanent workers with contract workers, to build in flexibility when addressing staffing needs. With reference to a study undertaken by the International Labour Organisation (ILO), evidence suggests that where overstaffing has been prevalent in operational areas prior to privatisation, huge reductions in labour have taken place. Buenos Aires, Argentina has undertaken a similar change, with a 50% reduction in the number of port workers. The ILO also noted similar reductions of 40 to 60% in ports in Australia, France and the United Kingdom (World Bank 2010: 2-4).

Labour’s perceptions of port privatisation include a mass reduction of workers, worsening of working conditions (benefits), and the deterioration of health and safety conditions. The Labour Tool Kit also highlights the possible impacts of port privatisation (see Table 4.1, below).

Table 4.1: Possible Effects of Privatisation on Employment in Ports

Employment effect	Employment condition	Labor–management relationship
Reclassification of posts	Greater job mobility	Greater emphasis on professionalism
New job patterns	Diminished guarantee of tenure and job security	More discretionary power in making management decisions and formulating enterprise policies
Labor retrenchment and direct job losses	Need for retraining and skill upgrading	More emphasis on strict implementation of those decisions and policies
Gender-biased employment policies	Longer working hours and/or increased workload	Marginalisation of unions' influence and bargaining power
Discrimination against shop stewards and other labor representatives	Payment by results schemes and pay freezes	More tedious wage bargaining with preferences for individual rather than collective agreements
Medium- and long-term employment gains resulting from increased investment, growth of privatised firms, and diversification of services	Loss of seniority and service grades	Tougher stance of management on workers' performance and work discipline
	Wider wage differentials with greater incentive components	Efficiency arguments and profit making gain importance over social objectives
	Loss of pension rights	
	Loss of social benefits (for example, housing, transportation, child care, health insurance plans)	
	Abolition of the prohibition to undertake strikes and industrial action	

Source: The Labour Toolkit.

Source: Public-Private Infrastructure Advisory Facility (PPIAF 2007).

Table 4.1 depicts the possible impacts on employment and employment conditions from privatisation in ports - as detailed by the PPIAF. While the changes in employment may result in adverse effects on both the number of workers, and the working conditions,

effective management of these changes is required to make the process smoother.

There are, however, alternatives to dismissals. As detailed by the PPIAF, these are:

- a. Normal attrition of the workforce as a result of retirements, deaths, or resignations.
- b. Part-time employment, flexible working hours, reduction in working hours, variable work weeks, job sharing, and overtime restrictions.
- c. General or job category-specific hiring freezes; absorbing cost reductions across the organisation, by sharing reductions in hours of work and pay.
- d. Work rotation with other government departments, in cases where the port is the main employer of the city and jobs in the surrounding areas are very scarce.

Some of these alternatives may not always be options, due to the need of immediately reducing costs. Where overstaffing is prevalent, either retrenchment or severance packages may need to be developed, taking into consideration the available funds for retrenchment or severance, as well as possible required training and guidance to find alternative employment. These aspects may not diminish the impact of labour force reductions, but may mitigate the results.

All considered, if the relationship with labour unions is not transparent and fair, then immediate responses could include industrial or legal action against the organisation. Legally, before any port privatisation can take place, it is necessary to identify the legal obligations of the state towards its labour, as well as the possible effects on the

community. If both parties identify the risks and possible mitigation prior to implementation, losses could be minimised.

4.2. Intermodal transport transfers

Unlike possible labour impacts due to private participation, intermodal transportation transfers can actually benefit from private sector investment, expertise and planning. Key to port operations' efficiency is the management of intermodal transfers of cargo between rail, road and the preassembly areas, which affect a port's productivity and the supply of goods throughout the logistics chain.

Landside infrastructure links are vital in easing the flow of goods, both in and out of the port. The main cause of most port congestion relates to inadequate rail and road capacity to ensure goods are moved within the shortest space of time. The government of India in 2007 issued a paper on their intentions to enhance their rail and road networks to their ports, to meet ever-growing sea freight demands. Sea freight to and from India was projected until the 2013/14 financial year, with the compound annual rate of growth (CARG) of 7.57%. In developing a strategy to enhance the intermodal network, a further analysis of each base commodity's current transportation mode in each port was done, which in turn highlighted the gaps which needed infrastructural development (Secretariat for the Committee on Infrastructure, Government of India 2010: 3-5).

Based on mainly bulk commodities being handled in Indian ports - such as fertiliser, coal, iron ore and oil - the following recommendations were made to improve intermodal links and port productivity in India (Secretariat for the Committee on Infrastructure, Government of India 2010):

- a. Each port was to have at least four-lane road connectivity and double lane rail connectivity.
- b. Road lengths within terminals of less than 50 km were to be improved, based on their needs.
- c. Connectivity to major highways was to be assessed in terms of present pressure on them, and whether further enhancements to these highways were necessary.
- d. Rail connectivity for each port was aligned to its major base commodity, and if shipping demand was not sufficient to sustain the network, alternatives to boost the rail demand were based on the introduction of new terminals such as container handling.
- e. Specific time-lines were set - with up to four years allowed for completion of the projects.
- f. Specific funding was allocated to each project, with the relevant local government as the key sponsor.

In this example, the Indian government encouraged private participation in the design of adequate road infrastructure, albeit that implementation and the management thereof remained within state control. Enhancing road and rail feed in and out of these Indian ports is only 50% of the intermodal transfer problem, as the capacity to plan and transfer the goods within the port and through road and rail networks remains a concern. Possible elements of port logistical planning as preferred by the writer should be considered to enable the efficient transfer of goods:

- a. All internal pre-assembly areas should have sufficient capacity to hold the maximum load from and to each berth for a period of 24 hours. This will enable maximum holding capacity for the designed area.
- b. Delivery from off-site pre-assembly areas should be closely managed in terms of handling capabilities at times of delivery.
- c. Sufficient and quality equipment should be available for the movement to and from the road and rail interfaces, in order to manage in- and out-flows.
- d. Operational times should be synchronised with the scheduled road and rail operating times, to ensure that capacity is maximised optimally.
- e. Necessary safety and security measures should be taken at the required points.

If the above criteria are satisfied and port planning activities are underpinned by an effective handling process, intermodal transfer of products may enable improved port productivity. However, investment in this instance would then not be contained within

the port itself, but to inter-linking services such as rail and road services. Private participation in a port's operations would have to be reviewed to ensure multimodal transfers are included through investment, design and management options. Relevant investment measures into possible port privatisation can also include subsequent impacts on associated services such as rail and road haulage and should be planned in accordance with each port's capacity and growth objectives. Through such investment, the enhanced movement of cargo will be transferred between port and rail and road haulage - thereby allowing a reduction in costs, as well as more effective utilisation of storage capacity in ports.

4.3. Other recent considerations

4.3.1. E-commerce and advanced security requirements

As technology evolves, advancement in port services has been facilitated by development in information systems, the Internet and e-commerce. Previously an element considered by port authorities as less important, technological advancement has proven crucial to the accurate sharing of information between consumer, supplier and regulatory authority. As advanced shipping security requirements now insist that the contents of each container is known prior to delivery at any port, electronic notices from one port to another must take place, to ensure that the transfer of information is accurate and complete.

E-commerce has become a general way of facilitating, not only information flows, but also ensuring compliance to safety and security standards at the various countries of destination. In some areas such as Canada, information relating to the goods that are being transported there from international ports, must be provided 24 hours prior to the containers actually being loaded on the vessel, and/or 24 hours prior to bulk or general cargo arriving at any Canadian port. As the world focuses security efforts at each port of entry, ports will be scrutinised to ensure that standards are maintained (Workman 2011).

Transparent information systems that enable clients to retrieve information themselves, are becoming necessities in modern business. Recent e-commerce developments in a port environment include:

- a. Enterprise Resource Management (ERP).
- b. Customer Relationship Management (CRM).
- c. Full service accounting.
- d. Leasing of property and/or marketing campaigns.

In this regard, private participation in ports may need to include not only investment in infrastructure and people as highlighted above, but also in advanced technology which will enable the company to manage its interfaces with its clients and stakeholders.

Through technology, accurate reporting structures have been developed, enabling SOCs to share information with government and dispel the notion that under regulation, government's inability to access the firm's information results in market failure.

4.3.2. Going green

Without any assessment of the increased environmental consciousness and its impact on port privatisation decisions, the analysis would be incomplete. Environmental priorities over the last 10 years have changed drastically, and ports are no different. Geographically placed as a vital part of the environment - on the water's edge - the maintenance of environmental standards in the sea freight industry is important.

Vessel fuelling, dredging activity and waste disposal in ports have always been areas of environmental risk, and have grown in importance over the years, as the primary focus has become the protection of the environment for future generations. New areas of concern are energy consumption and water quality. Although carbon emissions in the sea freight industry are not as predominant as a century ago due to vessel powering systems no longer being coal-based, air quality still remains an area of focus for environmentalists.

A study conducted by the European Sea Ports Organisation (ESPO)/EcoPorts in 2009 - the EcoPorts Environmental Review (Ecoports 2010: 2) - illustrates that over the years environmental priorities have changed and noise pollution now ranks as the most

relevant environmental concern, as traditionally port or industrial areas are now more populated or residential areas encroach on ports. Air quality and waste disposal still rank high as well, and necessary international environmental standards must be applied stringently if ports want to remain competitive. To combat these environmental risks, a code of best practice has been designed for all European ports to subscribe to, with management systems established to address noise pollution and waste disposal.

Private sector participation may not operate exclusively in compliance with stipulated international environmental standards. However, more emphasis needs to be placed on developing environmental management systems, similar to ISO 9001 or ISO 18000, that ensure consistency throughout ports, and that basic standards are met. Another valuable investment in port privatisation may then need to be one of an environmental nature.

Recent emphasis at the seventeenth session by the Confederation of Parties (COP 17), held by the United Nations Climate Change Conference in Durban in 2011, highlighted the need for South African industry to ensure their growth path includes elements that are climate-friendly and support the overall objective of government to reduce carbon emissions by 34% by 2020 (COP17: 1). In this regard, the transformation to renewable energy sources in forthcoming years will require industry to ensure that they include such new technology in their business-planning efforts.

As ports and the shipping industry are largely fossil fuel based, should private participation in ports be considered, then regulation criteria set by the state may need to include the utilisation of renewable energy sources and proper waste management programmes in support of this objective.

Chapter Five

South African Ports: The Road to Private Participation

5.1 Background

With 95 percent of South Africa's trade volumes seaborne, it is obvious that its seven ports are of critical importance to its economy (Chasomeris 2004: 2). These are the ports of Richards Bay, Durban, East London, Port Elizabeth, Cape Town, Saldanha Bay and the more recent Ngqura, 20 km northeast of Port Elizabeth. Like other international ports around the world, they serve as strategic nodes in the transportation chain, assisting overall economic growth and the development of the Southern Africa Development Community (SADC) region as a whole. With an annual throughput of 160 million tonnes in 2002, South Africa is rated within the top 12 nations internationally in maritime trading activity (Chasomeris 2004: 2). With its strategic location connecting the southern hemisphere with the East and West, substantially long shipping hauls are required to link South Africa with these key markets.

Most South African ports, with the exception of Durban, operate within a realm of monopolistic behaviour, where there are almost no private port operation services competing in the sea freight industry. The South African sea export industry is largely based on mineral, forestry, un-manufactured goods, and fruit exports. With most of these exports consisting of, for example, iron ore, steel and related products, unprocessed granite, pig iron and ferro manganese, most products are transported to

manufacturing plants across the world, who either beneficiate or process the goods for further export to the relevant consumer markets.

With exports of such a nature, and along with the growing import markets from the Far East, South African ports remain under public control with a service philosophy of a 'common-user' approach - i.e. where service is not limited but all encompassing to any vessel or ship operator that may require it. All port services are therefore controlled and operated by the government through its SOC, Transnet. This is to foster specific state objectives such as economic growth, with facilities made accessible to all users, irrespective of the financial feasibilities of the different operational requirements.

In relation to port services being a private good that is both rival and exclusionary, the provision of port services in South Africa remains public. The holding company, Transnet, is both the regulatory authority and port operating body, which creates the ambiguity in control as mentioned previously.

In general, subSaharan Africa has not been a very consistent privatisation follower, as the rest of the world was towards the end of the twentieth century. Megginson (2005) notes that few governments openly adopted an explicit SOC divestment strategy, although countries like Nigeria were one of the more frequent sellers of its SOCs, using the mechanism of public share offerings. South Africa, on the other hand, did undertake some partial privatisations like its telecommunications giant, Telkom, since the advent of democracy in 1994. However, Megginson notes that in the South African government, the word 'privatisation' remains taboo (2005: 19).

Few of South Africa's, and even Africa's, core SOCs, which dominate economies, have been privatised or even partially divested. This may be partly because certain existing ideological and political environments prefer state control over that of free markets, and privatisation on a broader scale in South Africa seems highly unlikely over the next few years (Megginson 2005: 402).

With such a track record of lack of full-scale privatisation or even partial privatisation in the transport sector in South Africa, as well as that of its neighbours, the possible benefits to be achieved by port privatisation may be lost - or will they? Empirical evidence over the last decade suggests that privatisation generally improves the financial and operating performance of most companies. This was also found in the cases of the ports of Maputo, Santos and Singapore, which were discussed in Chapter 3.

Megginson (2005) notes that manufacturing industries such as automobile assembly, oil and gas exploration and production, and steel-making, as well as service industries such as telecommunications - yield immediate and dramatic performance improvements as a direct result of privatisation. Privatisations such as these are often not challenged, as the direct improvements observed become obvious. In transport-related industries such as airlines and shipping, the evidence suggests that performance improvements derived are a direct result of an increase in capital investment and process improvements, where objectives are clearly laid out and supplementary policy steps are adopted by government to foster growth objectives. Privatisation works best when governments

simultaneously adopt an effective regulatory regime, and promote competition and new entry into a deregulated market (Megginson 2005: 399).

If we were to consider Megginson's directives, then South African ports, and in particular port operations, would be ideal candidates for privatisation. However, it is not quite that simple. Currently owned and operated by an SOC, company performance and deliverables are aligned to state objectives such as economic growth and job creation.

Under standard monopolistic behaviour models, marginal cost pricing is often ignored and port service fees such as for tug services, vessel pilotage and cargo-handling can be higher than marginal cost depending on the monopolist's behaviour. Combined with facility efficiency, a port's pricing policy affects overall sea transport costs and ultimately trade movements.

5.2 South African ports

Port privatisation has become a contentious issue in the South African government recently. International evidence suggests that privatisation, and port privatisation in particular, is beneficial to the performance of an organisation, as well as to the economy at large. South African ports being operated by an SOC are placed in the predicament of meeting the state objectives of encouraging international trade, as well as ensuring the creation of jobs and maintaining societal welfare.

All seven ports across the country are placed strategically to feed natural hinterlands, and offer vessels a port of call that is cost-effective, efficient and reliable in cargo

handling. Not all private participation in ports is uniform, and South African ports present unique characteristics that may or may not advocate privatisation depending on the markets they serve and whether anticipated results match the needs of all stakeholders.

5.2.1 Port of Saldanha Bay

The Port of Saldanha Bay is the deepest port in Southern Africa. Situated approximately 140 km northwest of Cape Town, this port boasts the largest iron-ore handling facility in South Africa. The port specialises in the handling of iron ore from neighbouring iron ore plants, with their largest clients being Kumba Iron Ore, Assmang, and Arcelor Mittal. Direct rail links from mining plants in Sishen to the port's berths, enable quick transfer of the product directly into the port. Together with conveyor belts and ship loaders, this ensures that Saldanha Bay port maintains its strategic links with one the largest export industries in South Africa (Transnet Port Terminals: 2011: 1).

The cargo operations at the bulk and multi-purpose terminals are operated by Transnet Port Terminals (TPT), with the overall regulation and control of the port being managed by Transnet's National Port Authority. All maritime services such as tugs, pilotage, dredging and tankering services, are managed and supplied by the Transnet National Ports Authority (TNPA).

5.2.2. Cape Town

The Western Cape is home to one of the two largest container-handling ports in South Africa - namely Cape Town harbour. The Port of Cape Town operates a container terminal and a multipurpose facility. With strong links to the food exports market, both fresh and frozen, both terminals have handled mainly deciduous fruit and frozen fish products.

Unlike Saldanha Bay, Cape Town's market is more general in nature, with a range of customers across the sea freight spectrum. Being strategically located for transshipment containers between Europe, the Americas, Australia and Asia, the Port of Cape Town has become a preferred port of call for long-distance ship voyagers across the Indian and Atlantic Oceans.

Cape Town's terminal operations are managed by TPT, with the port regulation and control remaining with TNPA. Unlike the Port of Durban, Cape Town, although it provides a range of services to its diversified markets - private participation is not visible in cargo-handling operations or marine services. All activity remains under the control of Transnet, and as volumes and demand grows, no private participation is being considered.

5.2.3 Ports of Port Elizabeth and East London

The ports of Port Elizabeth and East London are best reviewed together from an operational cargo-handling perspective, due to their distinctive similarities given the fairly short distance separating the two ports, as well as the primary markets they serve.

The motor industry in the Eastern Cape is situated relatively close to the Port of East London, for the export of manufactured vehicles as well as the import of necessary automotive parts. Port Elizabeth services this industry, while East London has a specialised car terminal which boasts two berths for the handling of Ro-Ro vessels.

Again, port operations are managed by TPT, with no private participation in either port. All regulation and marine services are controlled by TNPA. Interestingly, while one port may be limited in size, the short distance between the two enables a shipping line to make an alternative port call, should any port congestion be evident. Unless specialised handling is required (such as dry bulk facilities in Port Elizabeth), a ship can interchange between the two ports – so minimising their travelling time and transport costs.

Given the distinctive similarities and close proximity of the two ports, the introduction of private participation may entice direct inter-port competition. As shipping lines divert from one to another due to possible delays in a port, the other may become a preferred port of call, which could reduce costs to shipping lines and ultimately the consumers served.

5.2.4 Port of Durban

The Port of Durban provides the most diverse port-handling operations of the seven South African ports. Being the largest container-handling port in the country, its predominant vessels of call are container vessels of maximum size. The port has been subdivided into five separate handling areas for TPT: two container terminals, two

break-bulk terminals, and one car terminal. Multipurpose markets served range from deciduous fruit export, to steel, granite and timber exports.

Durban Container Terminal (DCT) is noted as being the largest container-handling terminal in the southern hemisphere. Being strategically located to facilitate container traffic between Europe, the Americas, Australia and Asia, growth is estimated at 13% per annum - which puts extreme pressure on its performance. Operating on the 'common-user' principle, queuing times for vessels can at times be excessive, resulting in escalating costs for shipping lines (Transnet Port Terminals: 2011).

There is private participation in the port of Durban, but such participation has been severely limited to certain industrial sectors by the TNPA, which amounts to state protection. For example, private operators have leased premises and/or land in the port of Durban's Maydon Wharf area from the TNPA. Through these lease agreements, cargo handling is limited to industries such as general cargo - viz. steel and fruit. Both container terminals and the car terminal remain under the control of Transnet, with no private participation involved. Specialised cargo handling of coal and petroleum is however managed by privately-run entities linked to manufacturing and beneficiation processes regulated in the country.

All marine services and port regulation is controlled by TNPA, who have created ambiguity in control, due to their reporting lines being to Transnet and not government.

5.2.5 Port of Richards Bay

Richards Bay offers shipping lines a port with both bulk and multipurpose handling facilities. This port, unlike Saldanha Bay, handles a variety of raw materials, including ferro manganese, woodchips, chrome, fertiliser, coal, and much more. With handling in excess of 82 million tonnes in the period ending March 2009, this port is the largest cargo-handling facility in terms of weight imported and exported through its berths (Transnet National Ports Authority: 2011).

Richards Bay, like the other four ports (Durban excepted), has its terminal operations managed by TPT and its port regulation and marine service managed by the TNPA. Although their market is fairly diversified, they have sufficient land for further investment and development. However, with growing competition from the Port of Maputo, Transnet have not taken steps to encourage private participation in the Port of Richards bay, to retain its status as the largest cargo-handling port in South Africa.

5.2.6 Port of Ngqura

The Port of Ngqura is a recent addition to South African ports. Being equi-distant to European, American and Far Eastern markets, this port has been developed to assist with the container traffic growth in the ports of Cape Town, Port Elizabeth and Durban. Being seven (7) km outside of Port Elizabeth, this port also has major industries investing in the development of the Industrial Development Zones (IDZs), to feed the port. Although currently under development, and estimated to take three years to develop, the container terminal operated by TPT is estimated to handle around 1.5 million TEUs by 2015 (Transnet Port Terminals 2011).

Like the other ports, Ngqura will remain largely under the control of Transnet, with TPT managing the sole container terminal, and port regulation under the control of TNPA.

5.3 South African port privatisation models

As highlighted above, the present model opted for in TPT ports across South Africa, is mainly a public/public one (Mangan & Cunningham 2001: 54). Most terminals are regulated, managed and operated by SOCs within government structures. A historical synopsis of the last five year's revenue performance, is depicted in Fig. 5.1 (below):

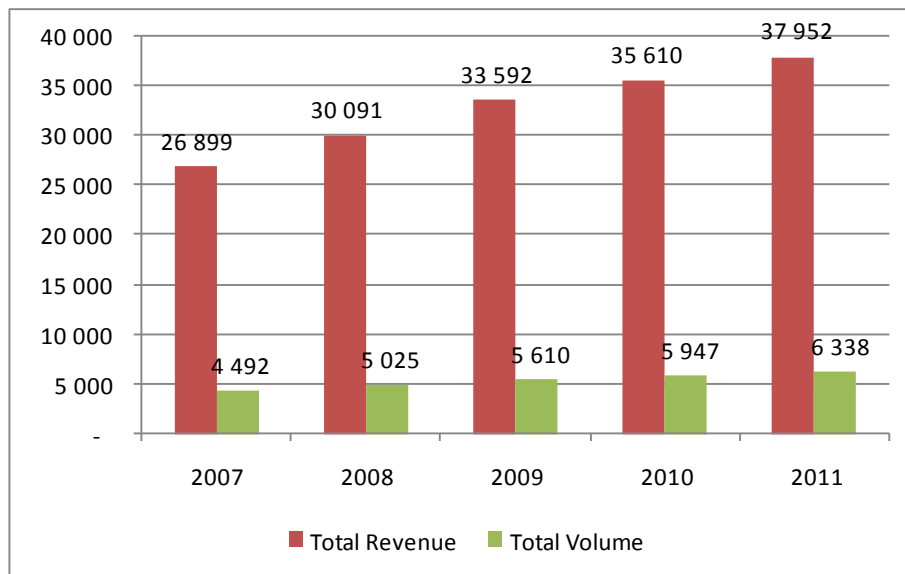


Fig. 5.1 Transnet and TPT's annual revenue performance (Source: Transnet Annual Financial Results 2011: 6)

Over the last five years, sea freight volumes (in green in Fig. 5.1) have experienced a positive trend. As shipping technology and sailing times improve, as well as clients adopting a more cost-effective attitude, sea freight in South Africa has improved by an

average of 9% per annum over the 5 year period (Transnet Annual Financial Results 2011: 6). TPT presently holds third place in the Transnet Group behind Transnet Freight Rail and TNPA, with a 16.7% share of revenue spoils. With group revenue improvements of 6.6% from the 2010 to 2011 financial years, port sector revenue increased by a massive 22.4% during the same period (Transnet Annual Financial Results 2011: 6). Port container-handling performance has, however, been impacted by internal market movements, with the 2010 financial year suffering a 5% reduction in TEUs handled (Fig. 5.2). A recovery of 12.5% in the 2011 financial year was largely attributed to international market recoveries in transshipment containers, and imports for the FIFA 2010 World Cup, which if treated as an isolated incident may not be replicated in the upcoming financial results (Transnet Annual Report 2011: 18).

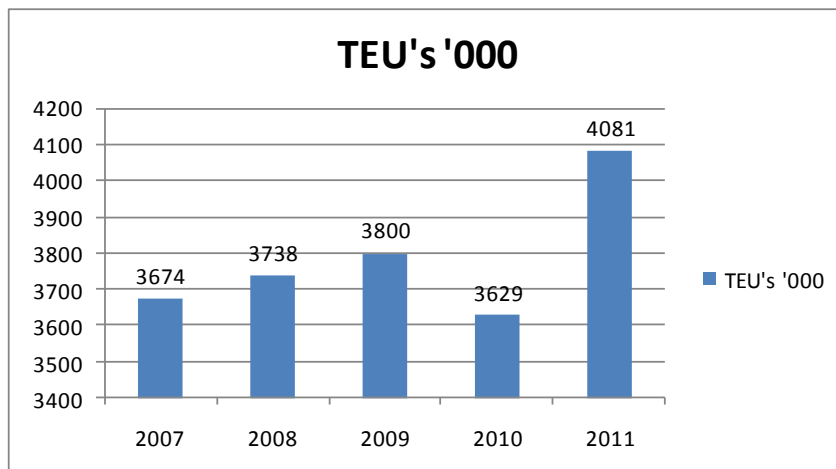


Fig. 5.2 TPT container volume growth (Source: Transnet Annual Report 2011: 18)

Port productivity (measured as gross crane hours in container terminals) has over the last two years seen improvement in their fledgling container terminal Pier 1 in Durban

(Fig. 5.3) - to meet the targeted 26 gross crane moves per hour (a 23% improvement year on year). Durban Container Terminal's Pier 2, however, has shown a marginal improvement from 22 to 23 gross crane moves per hour (Fig. 5.3).

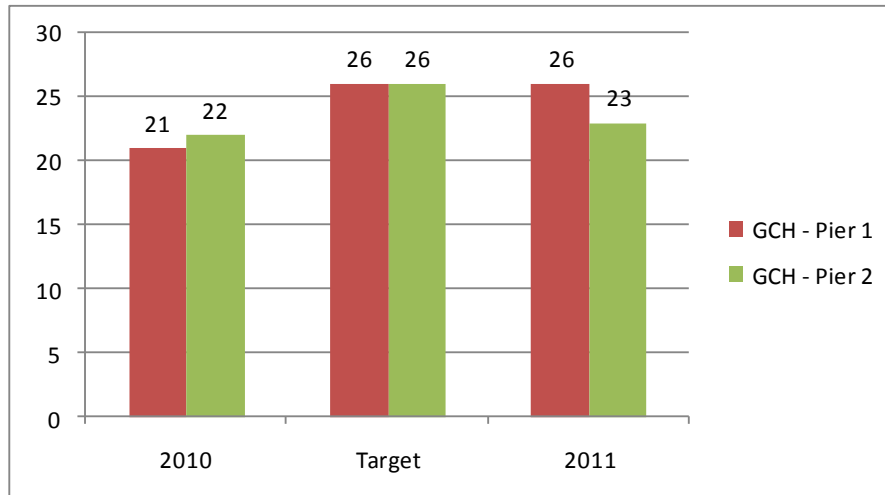


Fig. 5.3 TPT productivity and efficiency statistics (Source: Transnet Annual Report 2011: 18)

As TPT container terminals continue to improve processes, marginal productivity and efficiency gains are being noted. Due to political pressure and socio-economic objectives set by the government, private participation in our national ports - as mentioned in the cases of Maputo, Santos and Singapore - has not been high on the state's agenda. The efficiency and productivity gains which could be achieved from privatisation would range from increased infrastructural investments in ports such as Ngqura and Richards Bay by private firms, enhanced intermodal transportation interfaces as highlighted in the case of Durban, and improved financial performance of those terminals currently being a burden on the state through consistent financial losses. In comparison to the

Port of Singapore where an annual throughput of 15.3 million TEUs are handled (Heng 2005: 15), further improvements by TPT can be made.

With recorded reductions in revenue for break-bulk terminals of 1.2% year-on-year for 2010 against the expectation of 2009, along with an estimated reduction in revenue of 4.2% for the 2011 target against 2010, TPT have acknowledged the need to address these bleeding terminals. Their strategies include the consolidation of the car and break-bulk terminals, in an attempt to maximise resources and reduce costs incurred. The South African economy could potentially benefit from improved trade flows and investment, should private participation in ports be considered (Transnet Annual Report 2010).

Considering the above analysis of privatisation, port privatisation and South African ports, their current operations, market dynamics and regulatory framework - if such a private participation was to be encouraged, it may be safe to make the following observations:

- a. Port operations are the ideal candidate for privatisation should a private participation policy in ports be adopted by the South African government. Considering the objectives of maintaining state control over land and port regulation, port operation provides a necessary avenue to include private participation, and test the efficiency argument which will have direct impact on economic growth. If such were true, then the efficiency gains may improve the welfare of South African society.

- b. Considerations of economic development, fiscal contribution due to the sale of assets, the social impact of possible employment reductions, technological advancements, as well as the current political landscape, will need to have been made. It is assumed that the efficiency gain may need to be larger than the societal loss, in order for the impact of port privatisation to be positive.
- c. Various forms of private participation programmes - as highlighted by Marques and Fonseca (2010:145) - include concessions, operating lease and regulation models - which may be considered for inclusion in South Africa. Concession models are the most prevalent amongst most port privatisations, given this option enables government to allow a private entity full managerial capability, while still holding performance, employment and regulatory objectives over a period of time. One unexplored option of worker cooperatives exists. Management or employee buy-outs can improve performance, as individual and organisational objectives are directly linked.
- d. The jury remains 'out' on whether the implementation of private participation in South African ports will definitely improve performance, and a full socio-economic and political assessment may need to be concluded. From the literature assessed, operational efficiency gains from port privatisation are evident, but the ability of government to make similar gains - albeit at a slower pace - through technological and process enhancements, and as shown above by TPT, cannot be ignored.

Based on the existing port structures in South Africa, a summarised port privatisation model offered by the writer is depicted below in Table 5.1.

South African Port Privatisation Model Options					
Port	Port Operator	Operating Model	Privatisation model	Elements	Impacts
Cape Town	TPO	Varied services; diverse market; increasing container demand	Private participation in multi-purpose and container services	Private co-operation in breakbulk cargo; investment in container services	Improved terminal performance through investment in infrastructure; sourcing of skills; process redesign; improvement in profits
Durban	TPO/Private	Varied services; diverse market; increasing container demand; limited container capacity	Private participation in multi-purpose and container services	Private co-operation in breakbulk cargo; investment in container services	Improved terminal performance through investment in infrastructure; sourcing of skills; process redesign; improvement in profits
Richards Bay	TPO	Specialized services; semi-diverse market; increasing demand; substantial room for development	Private participation in multi-purpose and container services	Private co-operation in breakbulk cargo; investment in container services	Improved terminal performance through investment in infrastructure; sourcing of skills; process redesign; improvement in profits
Nqura	TPO	Under development; specialized markets; hinterland linkages under development	Development of alternative private handling services	Breakbulk, Bulk and/or Container terminals to be funded and operated by private entities	Improved port performance; increase in intra-port competition; creation of jobs; reduction in pricing

Table 5.1 South African Port Privatisation Model options

Should a private participation model, as suggested above, be implemented in South Africa - a review by the South African government of their national objectives or at least the impact of these, will need to be closely monitored. In the 2002 National Budget Review, the National Treasury indicated that after the division of Portnet into the TNPA, and TPT, it was most likely that port operations would be the preferred candidate for inclusion of private participation (National Treasury 2002: 122).

Due to rising political pressure and the emphasised national objectives of employment creation, this process was, however, stalled in 2005, and Transnet opted to retain its operations with the view of improving performance and focussing on business viability. Based on this, South African ports may need to consider following alternative measures for increasing port productivity and quality of service:

- Through consistent innovation and technology by TPT, operational procedures for both break-bulk and container terminals should be continuously reviewed to improve ship turn-around times and cargo/container handling performance. Container terminals, as indicated above, have made slight improvements – however, much more can still be done.
- Optimal resource allocation should be achieved by modelling operational activity on international best practices. Reduced time spent in port will reduce costs incurred by shipping lines for ship leasing. A consistent review of cargo-handling procedures will ensure that ship turn-around times are regularly improved.
- Concerted efforts to reduce costs, and in turn maintain competitive price structures. Streamlined operational procedures will result in lower costs incurred per activity, which may lower prices and improve port competitiveness.
- Clearly-defined management directives on profitability targets per business unit, in order to ensure long-term sustainability. As opposed to managing political objectives, management should be encouraged to ensure that the business remains a viable entity, and remuneration packages should be aligned accordingly.

- Solicitation of support from labour in order to increase productivity, with an agreed performance management programme to maintain performance standards.

It is important to note that if port operations are the sole candidate for private participation in South Africa, then the programme adopted would include the restructuring of Transnet as the holding company for port activity. The privatisation or private cooperation of TPT in selective ports, will foster economic development and encourage both inter- and intra-port competition. This distinction is important, as under current port structures and given the market dynamics, transferring market power from one monopoly to another would not be beneficial. The creation of port operation alternatives and competition, would provide optimal benefits to the economy and the welfare of society.

It is also suggested from the above analysis, that in order for port privatisation to yield maximum results, the regulatory authority (TNPA) would need to form part of government, and not part of Transnet. This will eradicate any ambiguity in control, and allow for clarity in objectives and the effective measurement and monitoring thereof.

Although it can be argued that privatisation of ports may bring about the very same objectives as a public service, and possibly at a faster rate, the manner of implementation and influencing factors, the role of the organisation, and the intention of its shareholders, cannot be ignored. Capital investment into South African ports' infrastructure remains a vital criterion in developing a new platform on which these

ports can compete globally. Not only will investment create employment, but it will also provide an environment where advanced technologies and operational procedures will achieve rewards.

5.4. Privatisation in whole or in part?

With all seven South African ports falling under the control and management of Transnet, an important aspect to consider would be whether privatisation would be beneficial to the local sea freight market, shipping industry, national economy, and related stakeholders. Whether the privatisation of South African ports presently controlled by Transnet Port Terminals (TPT) should be privatised as a single entity or as separate units, is now discussed.

5.4.1. Market efficiency and port privatisation

Traditional economic theory suggests that optimal market performance and efficiency is a result of competition. This is where Adam Smith's 'invisible hand' directs individual firm performance to achieve market equilibrium, where resource allocation is in line with marginal conditions (allocative efficiency), and in the long run a firm's output and pricing are optimised at the minimum average cost (Shepherd 1997: 40). In ports – like other industries – market conditions do not always settle at the most efficient outcome. Operated under monopolistic conditions, port operations are considered to supply private goods publicly. Due to various internal and external influences within a SOC (State Owned Company) such as TPT, its pricing and output provided to the market will not be at the competitive equilibrium level, as a result of monopolistic behaviour yielding higher prices and lower output.

In analysing whether South African ports should be privatised in part or whole, an analysis on whether they are efficient – including both allocative and internal efficiency – sheds light on which option would be preferred. The neoclassical analysis of allocative efficiency in Chapter 2 predicted that under monopolistic market conditions, price does not equal marginal cost and a welfare loss to society is experienced, relative to perfect competition. In South Africa, with a single port operator, the performance of a port is influenced by its ability to ensure costs are kept low at each level of output. Internal efficiency (X-efficiency) requires that the level of cost for each individual output is kept as low as possible, and even with good management, deviations from x-efficiency occur (Shepherd 1997: 34). Where monopolistic behaviour has been evident for long periods of time, and profits are high, management tends not to be under pressure to place sufficient emphasis on cost-control mechanisms, and costs tend to creep upwards. South African ports can be internally inefficient if inputs are greater than necessary, or if employees have a low level of productivity. As highlighted above, SOCs exhibit both of the above characteristics of allocative and internal efficiency, and as TPT is an SOC, it is likely that employment levels are excessive and that labour productivity is low.

5.4.2 Arguments on privatising ports as a single entity or as separate entities

5.4.2.1 Arguments in favour of privatisation

The privatisation of TPT as either a single entity or as separate entities, may be considered a viable option by the state should the objective be monetary. In the event the state intends to generate revenues from the sale of the assets, sale in full or in part would enable it to generate additional funds to contribute to its objectives. Ports such

as Durban and Richards Bay, with significant cargo throughput, provide all three port handling services. Maximum value can be generated for all seven South African ports if both the ports of Durban and Richards Bay are included in the sale of the port-handling business, in its entirety.

The converse applies that privatisation of individual terminals in particular ports, as separate entities, may reduce the overall revenue from the privatisation process. Investors would presumably be prepared to pay more for a monopolistic concern shielded from competition, than for individual ports subject to competition. This would increase the initial flow of funds into public coffers, but would be bad for other aspects of social welfare. On the other hand, individual purchasers subject to competition may be confident that they could each turn around a badly run, loss-making port – but would not be prepared to pay a high price for it. In that event, the initial receipt of funds by the Treasury from investors would be low, but other aspects of social welfare such as increased competition and the benefits there from would be served.

Another scenario might be that the government could decide to sell only some of the ports or individual cargo handling terminals within them. Depending on which ports, what services are offered at these selected ports by the various terminals, and how many ports are offered for sale, the sum of revenue earned from privatisation as separate entities may differ greatly from that of a single entity. Should the government retain the more profitable terminals and dispose of the poorer-performing terminals, the likelihood that the overall sale may generate much less revenue than the sale of all seven ports in South Africa simultaneously, is high.

Should the state believe specific standards (e.g. safety, security and handling procedures) need review and improvement in accordance with international best practice across all seven ports, then full sale or concession to a single entity that has the required expertise may be a viable option. This would enable the state to ensure that as part of the conditions of sale, or concession to the single firm, the terms and conditions would include the uniform application of benchmarked standards to ensure international standards are introduced and maintained. To ensure adherence to standards, the state could ensure that a national body such as the National Ports Authority of South Africa (NPA) would measure and monitor standards regularly.

In instances where the standards discussed above are not prescribed and monitored by the state, there is a risk that the standards would not be applied uniformly, which would compromise safety, security and to a certain degree the reputation of port-handling services in South Africa. Under such circumstances, inter-port competition would enable other ports to become more attractive, as vessels seek alternative ports such as those in Mozambique or Namibia, as opposed to South Africa. Other African countries which are landlocked, such as Zimbabwe or Malawi, rely on South Africa for the importation of vital goods, and should standards degrade, such countries would need to look at either making use of alternative countries, or even different modes of transport such as airfreight.

It should be noted that privatising as separate terminals can reduce the ability for a single entity to manage the implementation of benchmarked standards. However, such

application can be managed through government regulation after the privatisation process.

One key element to sale or concession as a single entity, as well as separate entities, is the relinquishment of a degree of managerial control by the state over the ports. Such an undertaking would remove the state's involvement in the management, planning and funding of further development of existing ports, which could take a burden off the state in terms of expenditure. This may be opted for if aligned to the economic policy of allowing a preferably internationally-experienced entity to not only invest in ports, but also to strategise on port development in conjunction with global, port development trends. The ability of competitive forces to act independently of state involvement will lead the market back to efficiency. The government would, however, presumably be involved in the development of new ports, with the complementary infrastructure such as roads and railways.

5.4.2.2 Arguments against privatisation

The biggest risk in the sale or concession of ports as single or separate entities, would be loss of managerial control by government of national assets such as ports. With ports being a direct link to an economy's growth, the relinquishment of such control would enable a single entity or separate firms to strategise, plan and implement in accordance with what *they* believe to be best for their organisations. The state, whilst controlling the entire port handling function in South Africa, has the ability to ensure that state objectives of economic growth and employment are managed through the SOCs.

The risks of reducing employment opportunities because of organisational right-sizing and increasing unemployment, the repatriation of revenue, dividends and profits to foreign-based headquarter(s), the loss of existing state revenue streams and the importation of foreign skills and technology as opposed to developing local skill levels – may all be counter-productive to the state’s objectives. Although certain terms and conditions can be pre-determined in advance of the sale, the risk would need to be closely managed over a period of time after the implementation, through regulation.

The sale or concessioning of South Africa’s port-handling operation will allow for the transfer of monopolistic power from one entity to another, if sold as a single entity. Whilst service procedures may be enhanced by the additional skill and experience introduced, the ability of the entity to price above long-run marginal cost ,and reduce the service outputs supplied to the market, is real. This would not only retain the current status where clients have limited choice, but could even worsen it should pricing be increased and/or output or output variation be reduced.

5.4.2.3 Additional benefits in favour of privatising ports as separate entities

Privatising South Africa’s seven ports as separate entities would enable not only inter-port, but also intra-port competition. As mentioned previously, as each port provides specific handling services relative to its direct market requirements, each port can be further privatised by individual cargo handling terminal viz. container, bulk and break-bulk. As an example, container terminals in Richards Bay, Durban and Cape Town can

each be privatised to separate entities, which will enable individual firms and ports to compete for the business.

The structural nature of South African ports allows for service similarities where ports can be grouped in accordance with their specialisation. Durban, Cape Town and Richards Bay all provide port-handling services of container, bulk and break-bulk cargo needs. East London and Port Elizabeth specialise more on automotive industry services closely linked to their hinterland production. Saldana Bay and Ngqura offer bulk commodity-handling services directly linked to mining activity. Durban and Cape Town are container-handling specialists, with Durban being the flagship for container handling in South Africa. As each service (bulk, break-bulk or containers) within each port is ring-fenced (i.e. enclosed in its specific category) into an individual terminal, private participation in each terminal will allow for firms to contribute at a micro-level, thereby aiding the view of overall market equilibrium across services and ports.

Through effective competition, emphasis will be placed on creating efficiency (both internal and allocative), which will allow for lower pricing and higher output of services rendered. As each firm strives towards improving service and providing cost-effective pricing to their clients, an increase of service options will be created for shipping lines. This would mean that instead of vessels incurring delays when waiting to be serviced at a particular port terminal, alternative port terminals will become available.

In promoting efficiency, the benefits of competition would best be served through the introduction of multiple, private firms in port handling, as opposed to the simple transfer of market power from one entity to the next. If the sale or concessioning of

some or all South African ports to a single private participant were to occur, this would not enable shipping lines the benefit of freedom of choice, and equity in the distribution of wealth or opportunities. Shipping lines, as consumers of port services, would have another monopolistic service provider controlling all seven ports, and their freedom of choice would be limited to a single entity – which would operate under the same monopolistic principles as TPT. With the state having full control over the management of TPT, the introduction of a private partner through a concession or part-sale, may however provide benefits of reducing costs by reducing inputs such as labour and introducing technological advancement. However, the transfer of monopolistic power would keep profits and wealth in the hands of a select few. Such an entity could create job insecurity in its attempt to reduce costs, and ultimately this would not aid social equity and fairness.

Through the introduction of additional firms, additional investment in individual terminal infrastructure would be possible – allowing for both terminal and port growth. This would reduce the burden on the state for funding all infrastructural growth and development. As individual terminals strategise on growth opportunities, port development would also be addressed as terminals grow in size and stature.

The introduction of managerial skill and experience would be anticipated if the entities procuring stakes in individual terminals have an international footing. This would improve terminal management through the adoption of global standards and procedures. If combined with terminal growth, it could also stimulate employment in

local communities around the ports. This would allow for the skills development of surrounding communities.

Through terminal specialisation, employees and management may develop specialised skills which would easily be transferable across privatised terminals. This would not only reduce the risk of job insecurity, but would also aid cost reduction, as such specialised skill will not need to be sourced externally at higher costs, and this will allow for organisational innovation leading to service enhancements.

5.4.3 Government regulation after privatisation

Whether port handling in South Africa is privatised as a single entity or as separate entities, government regulation after privatisation will be required. This would be to ensure that: the incumbent firm adheres the terms and conditions as laid out in the agreement of sale or concession; efficiency and market competition improve; and standards (i.e. safety, security, operational procedures) as set by the state are maintained. Should there be a deviation noted by the state, corrective action should be possible.

As noted by Shepherd (1997: 400), the first objective of regulation is efficient pricing. If TPT were sold as a single entity, monopolistic power would be transferred from TPT to an incumbent firm. If prices were to be maintained above marginal costs, the government may opt to implement restrictions on pricing. The state may place pricing restrictions on the incumbent firm to ensure that prices and subsequent profits (viz. rate-based regulation) are kept at an acceptable level.

In the event of TPT being sold as a single entity or multiple entities (i.e. specific terminals), the state may still opt to regulate the pricing structure. This process would include setting a pricing structure that is an acceptable margin above costs (viz. cost-plus regulation) (Shepherd 1997: 407-408).

Both models of regulation would require the state to have the following:

- a. Resources (manpower and equipment)
- b. Delegated powers (to adequately address deviations and hold the firm accountable)
- c. The will to apply constraints that are both tight and correct (Shepherd 1997: 400).

Unless all three above elements are created by the state in the form of a regulatory body, government regulation of port handling would not be effective. Fundamental criteria excluded in Shepherd's analysis, however, are information and knowledge. To provide effective regulation, the state would need to have vital information relating to the firm's pricing, costs, profitability and investment. In practice, private firms may not necessarily wish to divulge full information, and their ability to provide information that is complete and accurate would be needed by government if it is to ensure that regulation is effective.

Having knowledgeable and experienced regulatory employees who are familiar with the shipping environment, have comprehensive business management skills, as well as the ability to review the firm's financial status and make corrective recommendations, is important. Once port-handling privatisation in whole or in part (as preferred) is opted

for by the state, a regulatory body would need to be created, including all five elements (i.e. resources, power, will, information, and knowledge) – to ensure that the planning and execution of the firm’s objectives are maintained at acceptable levels, and that these align to the state’s objectives of improving port efficiencies, enhancing competition, and enabling port and economic development.

The introduction of private companies across the various ports offering similar services, would, it is believed, reduce the inefficiency of TPT. In the long run it would also provide service options which will decrease the market power of the monopoly and eventually lower prices as competition increases, and new incumbents adapt processes that are cost-effective and priced according to marginal cost. As more private firms are allowed to utilise optimum resources (e.g. access to berths, equipment, labour), competition would allow both allocative and internal efficiency to exist. Under current conditions, unless privatisation is considered in ports, the market inefficiencies of high pricing, limited output, over-resourcing and cost increases, would persist to the detriment of all stakeholders.

5.4.4. Stakeholder relations under port privatisation

Stakeholders are human beings and by nature would believe the privatisation process to pose a threat in various ways. Stakeholders consist of both internal and external interested and affected parties, who would view privatisation from different perspectives, and individual stakeholder views are reviewed below.

The primary internal stakeholder would be the shareholder – being national government prior to privatisation. Government is the present owner of TPT, and a decision to

privatise would only be made if overall benefits were aligned with its national objectives. Although the state would remain an important stakeholder post-privatisation, a critical point is that national government would relinquish its ownership role and managerial control – to assume a role of regulator without the ability to ensure that firm strategy is aligned to state objectives.

Internal stakeholders such as employees and management would view privatisation more adversely, considering the potential losses they may occur, either as a group or individually. External stakeholders such as clients, suppliers and supply-chain management partners would take a more positive view to privatisation, considering the limitations they would presently be facing and the potential benefits they could receive from the change.

Privatisation, although encouraging competitive market behaviour and societal gain, does pose a threat to the existing stakeholders of monopolies such as TPT. With *one* controlling firm, the following items highlight the lack of freedom of choice with a sole service provider in port-handling operations:

- a. Workers are limited in selling their services to multiple shipping firms. As only one port operator procures the skills of specialised port workers presently, there are limited choices available for employment in the sector. The degree of worker specialisation in port handling is limited to a certain degree, and their ability to transfer their skills to alternative industries is constrained.
- b. Shipping lines are restricted in their choices of port-handling companies. As shipping lines seek faster sailing times between origin and destination, vessel

- loading and offloading is restricted to a sole service provider, who has market control over services rendered and pricing applied.
- c. Service providers such as trucking, warehousing or distribution companies, are limited in terms of their options of supply-chain partners.
 - d. With profits being retained by one company and one shareholder (i.e. government), can the redistribution of income and wealth be fair? If the profits are retained by either government or a single private firm, then the redistribution of income may not be to the extent that competition may generate. Internationally-based private entities may repatriate profits to the holding country, which would exclude local people.

Through the introduction of multiple private partners in individual terminals across South Africa (i.e. sale in part), much of the above would be overcome.

5.4.4.1 Stakeholder assessment

5.4.4.1.1. Internal Stakeholders

As most SOCs are national government's tool to managing its economic and social policies, the relinquishment of power to individual firms would pose a number of risks as highlighted above. As the state prefers to use its SOCs to promote economic stability and job security, these risks can be viewed as contrary to state objectives. Provincial governments or municipalities (local governments) may face similar risks to national government in reductions in revenue earned through rates and taxes, if private firms review the structure and operational activities of the port.

Other internal stakeholders include employees of TPT such as management and labour. Considering that management are responsible for the development and implementation of TPT's strategy, they can be held responsible for the level of inefficiency that exists in the business. Private participation will pose a threat of job losses for management in terminals that have been performing poorly, and where the new firm can introduce greater management skill and experience. The headquarters of TPT may also need review if the purchaser believes a change in management skill and expertise is required. If terminals are privatised as separate entities, the holding company's (TPT) fully-resourced headquarters would no longer be required. Such control would shift to the individual terminals.

Being labour intensive, the TPT labour force could expect possible job losses should terminals be privatised. As technological advancements are introduced, revised operational procedures may be implemented. This may mean that previously labour-intensive procedures could shift to more capital-intensive methods of production. Should the incumbent firm believe the organisation requires a procedural review and organisational right-sizing to ensure appropriate resourcing is maintained to manage costs, labour costs – one of the highest cost components within an organisation – may be reduced. Cost-curbing initiatives may also be undertaken by the incumbent firm in an attempt to recover organisational sustainability, and for the same reason mentioned above, the staff complement may decrease.

Many of the internal risks identified by government, management and labour, can be overcome through conditional agreements made with the private firms. Loss of profit

earnings, revenue streams and employment, can be pre-determined to secure government revenue for a period of time. Although private firms will develop strategies to improve performance, such conditions can be negotiated in advance. Much opposition could be encountered as part of the change process, however these perceptions can be carefully managed if the correct objectives, strategies and agreements are made.

5.4.4.1.2 External Stakeholders

External stakeholders such as customers (shipping lines) and suppliers or partners (trucking, warehousing, distribution centres) may have mixed views on the privatisation of port operations as separate entities. They could see more benefits than risks through the introduction of competition where freedom of choice will be promoted and possible cost reductions imposed. Shipping lines more concerned over access to berths, time spent in port, and port handling fees, will be optimistic about obtaining value for money and possible savings, if the time spent in port is reduced and their vessels can be used more productively.

Suppliers or value-chain partners such as trucking, warehousing or distribution centres, may also benefit from having more options available for the supply of their services. Through the promotion of competition, terminal productivity may improve, and suppliers or partners may benefit through increased volume through-put, which in turn would improve their revenue earnings. Suppliers or logistics partners may, however, have concerns, if within a port multiple terminals offer similar services, with suppliers or

partners needing to make visits to different terminals as opposed to one specialised terminal, which would then require more resources or incur greater costs.

If within a port, separate terminals offered container-handling services at different locations, trucking companies may need to acquire additional resources to make multiple visits across terminals, in order to service their client or consignee's needs. Based on distance and location, this may incur additional transportation costs, and possible additional manpower to ensure that time specifications are met. If TPT were to be privatised as a single entity, with the incumbent firm retaining the current port-handling structure and terminal ring-fencing, then additional logistical costs to suppliers and/or partners servicing the port and its terminals may not be incurred. However, if monopoly power were to be transferred, suppliers and partners would be faced with the same limitations as TPT.

A distinctive external stakeholder which would also benefit from the privatisation of ports as separate entities, would be financial institutions. Where previously capital investment in SOCs was confined to government funding, having more players in the market would allow private financial institutions access to opportunities where substantial capital investment is needed. However, under an open economy such financial institutions would not be limited to those which are locally based. It should be noted though, that in the event internationally-based financial institutions are preferred, the economic benefit of redistribution of wealth may not have the desired outcome.

5.4.5. Privatisation alternatives

As the current shareholder, national government would have some reservations about the sale or concessioning of terminals in the seven South African ports. However, a few alternatives can be considered, which may generate similar results:

- a. Management/Employee buy-out – This option is promoted in terminals that are unsustainable or unprofitable, with the intention of the terminal’s staff taking ownership and returning it to sustainability. This option may overcome the risk of job insecurity of management and employees. The same management team that led the terminal to unprofitability implementing a turn-around strategy that generates different results is, however, highly unlikely. Such an option has been successful in a few international ports, but usually requires nationalisation again when economic circumstances are not good and profitability slips.
- b. Devolution or delegation within the public sector – If national government believes either provincial or local government may be able to control and manage their port operations directly, such services can either be decentralised or power delegated to individual municipalities to manage the various internal risks identified above. This alternative may assist in managing the risks of the state’s revenue retention and job security, as well as encouraging competition between ports and saving on headquarters’ costs. However, as various municipalities or provinces may have different local government objectives, there may be duplications in effort and costs in the execution of strategies.

In the end, the consumer who purchases goods which have been shipped would reap the benefits of increased competition in South African ports. Through the introduction

of private firms in various terminals across the country, allocative and internal efficiency would be promoted. Multiple terminals operated as separate entities would encourage marginal cost pricing, by ensuring costs are at their lowest level per input produced, and that resources are optimally assigned within the production process.

As the seven ports and the specialised handling terminals within each port compete against each other, pricing would be an influencing factor for soliciting sea-freight business. Prices would be reduced and productivity would improve. Although job security remains a threat to local communities which surround the port and serve as immediate labour pools, as more terminals are created through competition, skills could be transferred from one firm to another.

The market performance values of efficiency, technological progress, equity in distribution, and competition, will improve through the introduction of private participation in multiple terminals across various ports. Although concerns will exist with internal stakeholders, the benefits of competition and private participation – in particular the privatisation of TPT as separate entities – far outweigh the risks, which in turn can be managed through advance negotiations with potential candidates.

Chapter Six

Conclusion

6.1 Outlook for South African port privatisation

South Africa remains one of the strongest economies on the African continent. As a developing country with strong economic ties to the Far East, Europe, North and South America, its trade competitiveness is being challenged by other countries such as Australia and Brazil. The government remains tight-lipped on any form of formal port privatisation or even private participation programmes, and socially the primary objective remains the creation of jobs.

In the State of the Nation address on 9th February 2012, President Jacob Zuma voiced the importance of investment in infrastructure to enable economic growth, which in turn will foster job creation. TPT was no exception, and mention was made of numerous investment programmes to the value of R100 million - to facilitate trade through the country's ports, and which will be undertaken by the state. Despite concerns about global economic performance, the President highlighted the role of public spending as crucial to enabling growth, and committed much more spending on SOCs in the forthcoming financial year (South African Government Information 2012: 1-4).

South African port services, as private goods produced and provided publicly, exhibit characteristics where port privatisation or private cooperation could make substantial positive contributions to the economy. As the debate rages on as to why governments privatise, the many objectives as set by the state must take into consideration the economic and socio-political climates. It is of vital importance that the state's objectives are clear and that no ambiguity exists, in order to ensure that the targets set are met.

From this economic analysis of privatisation and port privatisation in particular, the theory of perfect competition and the Pareto equilibrium, is often not held in practice. Ports, by their very nature, exhibit natural monopoly tendencies, and government regulation of such behaviour is necessary to ensure that the loss to society created, is minimised.

Despite the various applications of port privatisation in developing countries in Africa, South America and the Asia Pacific, what is evident is that efficiency gains are possible from the privatisation of port operations. Although efficiency improvements in SOCs have been noted, these are at a slower pace, but cannot be discounted. Ensuring this efficiency gain is greater than the welfare loss, requires clarity in roles, objectives and the close monitoring of the implementation of the privatisation programme.

Various forms of port privatisation have been implemented internationally, including concessions, operating leases, government regulation, and even worker cooperatives.

Most prevalent is concessioning, which will enable a private organisation full managerial oversight, whilst protecting the state's objectives.

Based on the structural analysis of South African ports, it would be optimal if Transnet as the holding company of TPT and TNPA is restructured to facilitate the beneficial results of port privatisation. Opportunities exist within the ports operated by TPT such as Cape Town, Durban, Richards Bay and Ngqura, where private participation can be encouraged and efficiency gains reaped.

The improvement of TPT's terminal-handling operational efficiency, intermodal transfer activity, and port competitiveness, will enable South African ports to realise the benefits of improved trade and overall economic growth. The restructuring of TNPA to report directly to the state and no longer to Transnet, will enforce its role as the regulatory authority which will measure and monitor TPT and its compliance to regulatory standards.

The proverbial quantum leap in the improvement of operational efficiencies, advancement in managerial skills, and overall improvement in financial performance of South African ports, has not yet been taken. Whether they will in future, remains a question unanswered.

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