RESTRUCTURING PORT GOVERNANCE IN SOUTH AFRICA

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Abstract

South Africa's (SA) ports do not have a clearly defined port doctrine. They have certain elements resembling the Anglo-Saxon port doctrine, others the Continental doctrine and still others the Asian port doctrine. Thus, SA encounters conflicting port objectives: it runs a complementary ports system where costs are not reflective of prices charged, and the revenues and costs allocated to various commodity types remain unjustified. This is against the backdrop of intra-port, inter-port and multimodal cross-subsidisation, which found justification in SA's developmental objectives but has been viewed as unjustifiable under current economic conditions, giving rise to dissatisfaction among various port stakeholders regarding Transnet as a state-owned enterprise and Transnet National Ports Authority's (TNPA) governance and pricing practices that have not been adequately addressed. Using content analysis, 18 stakeholders' submissions on the 2013-2014 TNPA tariff application, 15 stakeholders' submissions regarding the multi-year tariff application, and 16 submissions regarding the 2014-2015 tariff application were assessed. The focus was on finding links between challenges faced by stakeholders and whether solutions would be found through SA adopting a different port doctrine. The findings show that while the Asian doctrine is more aligned with SA's developmental objectives, adoption of it may prove premature in view of the current and foreseeable economic conditions. The study shows that the local port system may not find a perfect fit into any of the known port models and established port doctrines, but, instead, that SA needs to articulate its own port doctrine.

Keywords

Port economics, port governance, port doctrine, devolution

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1. INTRODUCTION

It is generally accepted that about 90% of total global trade is seaborne and of that seaborne trade South Africa's share by volume was 3.5% (IMO, 2012). Of South Africa's trade composition, 98% of its exports by volume were moved by sea (SAMSA, 2012). This makes South Africa a major sea trading nation with a naturally strategic geographic positioning in the southern hemisphere, as a midpoint between the West and the Far East that is also seen as a gateway to the rest of the African economy (Scholvin & Draper, 2012). South Africa is relatively sheltered from the fierce ports competition that results when maritime nations are in close proximity to each other, as we see in the Far East and in the West (Yeo, 2010). Furthermore, the country has the potential of benefiting much from transhipment because of its geographic positioning (DTI, 2012).

South Africa has eight commercial ports managed and run by one port authority called Transnet National Ports Authority (TNPA), which is a division of Transnet. Transnet is a South African transport conglomerate, which is a state-owned enterprise (SOE), with the state having a 100% shareholding in it via the Department of Public Enterprises and its divisions, which are Transnet Pipelines, Transnet Freight Rail and Transnet Engineering, which is an operating division of Transnet SOC Ltd and serves as a backbone of the railway industry (Klopper, 2010). TNPA, which was formerly part of Portnet, is the ports' landlord and deals with the facilitation of sea trade in South Africa's ports.

Considering the extensive role played by sea trade in the global economy, seaports are a critical supply chain link between the local economy and the rest of the world. Maero (2014) explains that the proper development and maintenance of seaports helps promote the flow of commerce and contributes to economic development. The administration of the port, its form and structure, is an obvious key to most problems in the port's organisation (Maero, 2014). What informs the administration of the ports, which we call port doctrine, influences the pricing policies and the efficiency of ports.

For example, of the eight commercial ports, the Port of Durban is reputedly the busiest in Africa and the largest container port on the continent, according to Transnet (2014). Yet, because of its key role in the facilitation of hinterland trade and its geographic positioning, the Port of Durban experiences congestion and less than optimal use of existing infrastructure. This is not unique to the Port of Durban: all commercial ports in the country have challenges with the current tariff methodology and pricing strategy. The pricing of port services is not purely an accounting concept. The import and export tariffs charged, and their justification, may not find reasoning purely in economic terms. The competitiveness and protection of local industry in any developing country is influenced by political decisions beyond just macroeconomic policy and nowhere else is this better demonstrated than in the governance and operations of a country's maritime ports (Bennathan & Wishart, 1983). Knowing that the pricing of port services, the policies underpinning governance of ports, and the tariffs charged therein are not an exact science, certain political objectives, modes of operation and economic practices throughout the history of sea trade by dominant maritime nations do, nonetheless, point to several characteristics that are common among maritime nations and regions of the world. These are what Bennathan and Walters (1979) referred to as port doctrines when they were reviewing principles of port development. They established two major port doctrines, which they called the Anglo-Saxon doctrine and the European (Continental) doctrine. During the 1970s, the Asian economies started experiencing greater economic growth rates and so developed container hub ports to support this (Stopford,

2009). This was a unique paradigm, not practised by Western maritime nations, and it was called the Asian Port Doctrine by Lee and Flynn (2011).

Under the Anglo-Saxon doctrine, the main objective of ports is that they make a profit. The tariffs charged are often reflective of the costs incurred and are set so that there are returns on the private investment used for their construction and development. Bennathan and Walters (1979) mention that the Anglo-Saxon view is that ports should earn a reasonable profit, or at least not make a loss, that they should be self-sustaining, and independent of government intervention, as investment is made and tariffs are charged on the premise that ports make a profit.

Slightly more lenient to government's national economic objectives, and with a wider view of the ports' role in the economy, is the European (Continental) doctrine. In charting the new paradigm for a container hub port development policy, Lee and Flynn (2011) said, 'The European doctrine views the port as part of the social infrastructure of a whole region. The value of a port should be assessed not in the accounts of the facilities but in terms of the progress of industry and trade in the hinterland. Thus, the European doctrine holds that it is certainly necessary that the port break even, or perhaps earns a profit, either on existing or proposed investment; justification is pursued and usually found well outside the perimeter of the port' (Lee & Flynn, 2011:792-793). Under the European doctrine, while not strictly adhering to the user-pays principle, ports themselves are encouraged to set their pricing structure.

South Africa borrows tentatively from each of the aforementioned doctrines and thus has conflicting objectives. This paper attempts to briefly relate South Africa's history of port governance, to show that South Africa has no clearly defined port doctrine, and to outline the consequences of this. Finally, it recommends some reforms of the current port governance model as a means to ameliorate these adverse consequences. It is not the purpose of this paper to attempt to make South Africa's style of port governance conform to any one of the aforementioned categories of port governance. Rather, the purpose is to express the need for South African ports to have an articulate port doctrine of their own that informs the country's port policy, port devolution and port pricing.

Section 2 is the literature review, where the history of South Africa's ports is summarised and the current situation, as a consequence of past practices, is shown. The Asian port doctrine is explored, though briefly. Section 3 shows the research methodology used in this study and section 4 discusses the findings and makes a critical comparison between South African ports and Far Eastern ports with a view to improving the South African ports system. Section 5 concludes and makes recommendations for South Africa's local ports governance.

2. LITERATURE REVIEW

The present imbalances and inefficiencies in South Africa's port pricing and port operations have their roots in the historical governance of ports. Gumede and Chasomeris (2013) state, from the review of stakeholders' comments, that South Africa's ports have had a persistent challenge of a lack of cost-based pricing principles; not having a justifiable pricing methodology; congestion, low productivity and inefficiency; inconsistent and unreasonable pricing of products; and poor service delivery, among other things.

In the interest of maximising port throughput and increasing the benefits of ports to the hinterlands, the South African government has, in the past, attempted to regulate the local ports partly through price manipulations, but of late, through ports restructuring (Van Niekerk, 2007).

In as little as 100 years, the South African ports system has been through five models of governance. From 1833-1908 ports were financially autonomous harbours administering their own individual tariffs and characterised by fierce inter-port competition. From 1909-1981 the South African Railway and Harbours Administration (SAR&H) took over and unified revenues from ports with those from the railway sector, introducing cross-subsidies in favour of the loss-making railway sector. By 1981, through the South African Transports Services Act (SATS), SAR&H transformed into a state-owned enterprise that also had to consider the economic interests and transport needs of the entire country. Intra-port and inter-modal cross-subsidisation remained. In 1989 Transnet was formed as a public company to commercialise the activities of SATS, and it became the country's transport conglomerate as an umbrella company maintaining five divisions: Spoornet, Portnet, Petronet, Autonet and South African Airways. Portnet faced a player-referee dilemma with respect to ports as it had to wear the two hats of regulator and operator of ports and perform a balancing act between the two roles. This being a challenge, and in line with international best practices as recommended by the World Bank (2007), Portnet was split, in 2002, into a landlord port authority called Transnet National Ports Authority (TNPA) and a port operator called Transnet Ports Terminals (TPT).

The World Bank (2001), in dealing with the player-referee problem in ports across the world, called for a stand-alone regulator independent of political intervention, hence the birth of the Ports Regulator of South Africa. Section 30(1a) of the National Ports Act (2005) specifies that one of the main functions of the Ports Regulator is to '(a) exercise economic regulation of the ports system in line with government's strategic objectives.' As declared on its webpage, 'The Regulator's key function is economic regulation of the ports system in South Africa, in line with the strategic development context of the state. In accordance with this mandate, the Regulator performs certain functions and activities in the industry that relate mainly to regulation of pricing and other aspects of economic regulation, promotion of equity of access to ports facilities and services, monitoring the industry's compliance with the regulatory framework and also hearing any complaints and appeals lodged with it' (Ports Regulator, 2014).

TNPA summarises its overall objective as 'ensuring the competitiveness of the South African ports systems and support economic growth as mandated by its role as a state owned company' (TNPA, 2012:56). With the improvement of the national ports regulatory framework, TNPA is legally required to submit a proposal to the Ports Regulator before making any major adjustments to the port tariff structure and methodology and it applies annually to the same body when an increase in port tariffs is requested. The Ports Regulator then invites various stakeholders to comment on the tariff increase, or the tariff adjustment, applied for and a period of review is given so that an informed decision may be made in accordance to the National Commercial Ports Policy, the National Ports Act (2005) and the regulatory directives.

In view of the TNPA tariff application over the years, and analysing the port directives which were approved and gazetted in 2009, and amended in 2010, when the Authority proposes tariffs, the Regulator should ensure that such tariffs allow the Authority to (TNPA, 2012:8-9):

- Recover its investment in owning, managing, controlling and administering ports and its investment in port services and port facilities;
- Recover its costs in maintaining, operating, managing, controlling and administering ports and its costs in providing port services and port facilities; and
- Make a profit commensurate with the risk of owning, managing, controlling and administering ports and of providing port services and port facilities.

There has been agreement with the first two points above in providing a rationale for their tariff increase applications annually, but not with the third point. Reasons cited include that the ports are a strategic national asset used to facilitate South African trade and improve its competitiveness, therefore the prices charged for providing the services by TNPA should enable the economy to achieve these; and the financial structure of ports as national strategic assets should be structured to enhance competitiveness; and not against recovery of opportunity costs of capital employed. Therefore the third directive should be reviewed (Fruit_SA, 2013). This complaint by Fruit SA is not purely an issue of port pricing, it is rather a strategic issue of port governance that then determines the pricing methodology used for ports. For TNPA, this is the Required Revenue (RR) methodology, which, while not being the best methodology, seems to be approved by the Ports Regulator in the absence of a superior alternative (Ports Regulator, 2011). Chasomeris (2015) makes a detailed constructive critique of the RR methodology, which, however, is not a focus of this paper. The complaints arising from stakeholders about its consequent port charges for various commodities and the pricing strategy are echoed on the themes of port governance discussed in section 4 of this paper.

2.1 Port Devolution in South Africa

Among TNPA's objectives are ambitions to be a perfect landlord port like Le Havre in France (TNPA, 2012:26 & 48) instead of the predominantly public ports model as is the current situation under Transnet with TNPA being the landlord and also having a sizeable stake in terminal operations through TPT. Terminal operations are best handled by private terminal operators in landlord ports, but presently Transnet, a public utility, has a significant share. See TABLE 1.

TABLE 1: Public-Private Interface in Terminal Operations

Service	*TNPA*	*Port Operations*	
		SOE–TPT	*Private Sector*
Marine Services	100%		
Bulk Cargo Handling		37%	63%
Break-bulk Cargo Handling		78%	22%
Container Handling		97%	3%
Car (on wheels) handling – RoRo		100%	

Source: Ports Regulator 2010:31

It must be noted that the most profitable sectors, when it comes to ports, are the containerised cargo and the automotive (RoRo) cargoes. These two sectors are charged premium prices while the dry bulk sector experiences discounted port charges and, incidentally, TPT handles the most profitable cargo types almost exclusively – that is, handling of containers 97% and RoRo cargo 100%. This is seldom the case for ports that aspire to conform to the landlord model.

Among landlord ports, there are differences in the functions and interaction set of responsibilities across different ports. Brooks and Cullinane (2007) argue that there are almost as many port devolution models as there are maritime ports in the world. This they said in response to the study conducted by Baird (1995, 1997) cited in Song and Lee (2007) wherein the port functions, or port governance, can be classified into four models as shown by TABLE 2.

TABLE 2: Port Governance Model

Port Models	*Port Functions*		
	Regulator	*Land Owner*	*Operator*
1. Public	Public	Public	Public
2. Semi-Public	Public	Public	Private
3. Semi-Private	Public	Private	Private
3. Private	Private	Private	Private

Source: Song and Lee (2007)

South African ports principally have Public Port characteristics, yet they are not purely a public port system. For her ports, the regulator is a public body, the land owner is TNPA, a public company, and the operator is TPT, a dominant terminal operator and a sister company to TNPA. Despite this, it is difficult to classify it as a purely public port because, while TPT as an SOE is a major goods handler, there are also smaller private players handling bulk and break-bulk commodities. Neither can one classify the ports system as a Semi-Public port model because both public and private sector play a role. Therefore, the SA ports system does not conform to the four classifications and finds its own odd fit between the public and semi-public port models. It is therefore no surprise that Brooks and Cullinane (2007) found, in a study of 42 ports, at least 34 different combinations of port governance.

Beyond the abovementioned port governance matrix are port devolution options, which may include privatisation, corporatisation or public-private partnerships, which all have their advantages and disadvantages. These devolution measures are beyond the scope of this paper, but suffice it to say that in South African legislation there is an option to corporatise ports. This is so that TNPA may conduct business as a corporate entity (National Ports Act,2005: s.3(3)(b)). Such a provision is made in fulfilling the objects of the act, which all point to the workings of a private company as articulated in section 2(a) to 2(f). It must be noted that the corporatisation process, according to section 27(1) of the Act, was supposed to commence immediately after the Act came into effect.

In 2012, after considering some of its pricing shortfalls and the complaints lodged against it, TNPA established four core design principles, namely: cost-based, user pays, required revenue and competitiveness. These principles inform its cost structure (TNPA, 2012). Yet, despite these claims, there remains conflicting objectives within the same ports authority. For example, though the ports differ in structure, commodities handled and markets served, they are charged uniform tariffs. This is in conflict with the cost-based and user-pays principles. These principles do not allow for competitiveness based on TNPA prices. Another issue is the fact that running the complementary ports system is in direct conflict with cost-reflective pricing and inter-port competition – so also is the practice of intermodal, intra-port and inter-port cross-subsidisation.

Remarkably, the government's goal is to align TNPA as a parastatal with its national macroeconomic objectives for ports. This decision anticipates an increase in the facilitation of administered port pricing, but TNPA wants to implement the user-pays principle along with cost-reflective pricing. The RR methodology currently being used is, by definition, in conflict with competitiveness as a core design principle because it does not incentivise productivity or cost-

reduction. On the contrary, the RR methodology may actually incentivise bloated capital costs and operating costs (Chasomeris, 2015). In addition to these contradictions, TNPA wants to be a perfect landlord model but currently TPT, its sister company under the same conglomerate, holds a lion's share of terminal operations.

2.2 Theoretical Review of Port Pricing

With respect to port pricing, it is a common conviction among many port economists that the pricing for port services should be based on a marginal cost approach or its varieties such as marginal social costs, short-run marginal costs or the long-run marginal costs depending on policy and each port's cost structure. Bennathan and Walters (1979), Haralambides, Verbeke, Musso, and Benacchio (2001), Swahn (2002), and Meersman, Voorde, and Vanelslander (2003) hold that when determining administered port prices, marginal cost pricing is the principle worth considering. It is noted that among the most successful ports in the world, the landlord model is followed where the port authority is the owner of the infrastructure, and the superstructure is predominantly owned and maintained by the private sector (Suykens and Van De Voorde, 1998). However, for the Asian ports and for South Africa, this practice is not reflected in the determination of port prices, and in many Far Eastern ports the government is a player of multiple roles, readily redefining what many port economists may call the conventional. Notwithstanding the unconventional approach to port management, structure and pricing, the Chinese and other Asian ports, through their treatment of a container port as fundamental development infrastructure, have successfully developed top-ranking container ports in Asia during the past four decades (Lee & Flynn, 2011) which prior to that were rare in much of Asia, while South Africa has had persistent challenges of the stifling of intra- and inter-port competition and poorly executed cross-subsidisation.

2.3 Reviewing Port Doctrines and their Consequences

It is worth asking where South Africa falls short compared to the Far East and other maritime nations. For this reason, a review of two port doctrines, whose characteristics seem pertinent to South African ports, follows.

2.3.1 The Anglo-Saxon Doctrine

Having mentioned that under the Anglo-Saxon doctrine of ports the underlying principle is that they should be profitable, Liu (1995) stated, regarding UK ports, that the liberal nature of the British government towards ports does not give ports in the UK any obligation to consider ports as part of the social infrastructure. As such, the underlying Anglo-Saxon doctrine entirely rejects macroeconomic objectives, such as those pursued by the ports sector in many other continental European countries, like employment creation, improvement in the tax base and general economic development of the hinterland (Liu, 1995).

Under the Anglo-Saxon doctrine, ports are certainly expected to charge reasonably for their services to all users; however, public ports are not expected to be profit-seeking (De Langen & Heij, 2013). That is, they are non-profit organisations – yet they receive no subsidies from the government and are still required to generate adequate revenues to cover operating costs and to finance investment expenditure (Liu, 1995). Another tenet of public ports under the Anglo-Saxon doctrine is that they are free from government interference and they enjoy much the same

managerial freedom as their private counterparts in all aspects, except having limited access to sources of capital (Liu, 1995).

Insofar as most ports in the UK are privately owned and tariffs are charged on a commercial cost basis, they lean towards the five pricing guidelines suggested by Meyric (1989) as follows:

- The full cost of providing port services should be recovered from users;
- Port costs arising from services provided for an identifiable user or group of users should be recovered from that user or group of users;
- Costs which cannot be attributable to any specific users should be allocated according to the following principles: (a) all port users should make some contribution to common costs and (b) the contribution that any group of users makes should not exceed the cost that they would incur if they were the sole users of the port and (c) within these limits cost allocation should reflect the benefit that a user derives from the service provision;
- The structure of port charges should, as far as possible, reflect the structure of costs; and
- The cost of capital should reflect the opportunity cost of the original investment in the case of assets for which there is no ready market. For other assets, it should reflect the opportunity costs of holding the asset in its current use.

These five points are in line with Meersman et al. (2003), who stated that the purpose of port pricing is to confront the user with the additional cost that it causes. Interestingly, however, this argument was in favour of short-run marginal cost pricing, while Meyric (1989) has similar reasoning, but in favour of average cost pricing.

2.3.2 The Asian Port Doctrine

Lee and Flynn (2011), in their discussion on the Asian doctrine, mention the direct involvement of central government in the Far Eastern ports as port designer, developer, operator, port pricing maker, mediator and investor – showing the intricate system of central coordination which is prevalent in some Far Eastern economic systems as evidenced by the Chinese style of governance. The Asian doctrine highlights the importance of ports as part of the entire hinterland economic reform, which would not flourish without being knitted into the overall government developmental strategies. Indeed, this kind of developmental planning is not unusual in countries such as Korea, Singapore and Taiwan, which are seen as adherents to the Asian doctrine – where central government plays the role of infrastructure constructor, terminal pricing maker and facilitator.

TABLE 3 shows the Asian doctrine following Far Eastern ports compared with current practice in South Africa. The general observation is that with respect to marine access infrastructure, most of the services that are performed by the central government in the Far East are performed by the Ports Authority in South Africa. Again with respect to port infrastructure provision, the Far Eastern ports have a mix of terminal operators, port authorities and central government being responsible. This is also true for the Port of Antwerp, even though responsibility leans more heavily on the port authority. The port superstructure is provided by terminal operators in all ports save Busan and Gwangyang, but in South Africa it is the government-owned TPT which, as already discussed, is the most dominant terminal operator.

It cannot be ruled out that the central government, and other arms of government, have a strategic role to play in national ports. Yet despite that, the principal feature of landlord ports is conspicuous. That is, the port terminal operators provide almost all port superstructure (cargo handling utilities) in ports despite the multifarious role of government.

TABLE 3: Institutional Responsibility for Port Investment Items and Government's Role

		South Korea	*Singapore*	*Taiwan*		*Malaysia*	*China*		*Hong-Kong*	*Antwerp*	*South Africa*
Investment Category	Sub-items	*Busan, Gwangyang*	*Singapore Port*	*Kaohsiung*	*Taipei*	*Tanjung Pelepas*	*Shanghai, Waigaoqiao*	*Yangshan*	*Hong-Kong Port*	*Antwerp Port*	*SA Ports System*
Marine Access	Channel	CG	CG	CG	PA	CG	CG	CG	LG	CG	PA
	Breakwaters, etc.	CG	CG	CG	PA	CG	CG	CG	LG	CG	PA
	Navigation Aids	CG	CG	CG	CG	CG	CG	CG	LG	CG	PA
Port Infrastructure	Land	PA	PA	PA	TO	TO	TO	LG	TO	PA	PA
	Berths Dredging	PA	PA	PA	TO	TO	TO	LG	TO	PA	PA
	Berth side	TO	TO	TO	TO	TO	TO	TO	LG	PA	PA
	Turning Basin	CG	CG	PA	PA	CG	PA	PA	LG	CG	PA
	Channel	CG	CG	PA	PA	CG	PA	PA	LG	CG	PA
Port Superstructure	Paving	PA	TO	TO	TO	TO	TO	TO	TO	TO	TPT / Private TO
	Cranes	PA	TO	TO	TO	TO	TO	TO	TO	TO	TPT / Private TO
	Terminals	PA	TO	TO	TO	TO	TO	TO	TO	TO	TPT / Private TO
	Sheds (CFS)	TO	TO	TO	TO	TO	TO	TO	LG	TO	TPT / Private TO
Land Access Infrastructure	Road Links	CG	CG	CG	CG	CG	LG	LG	LG	CG	LG/DOT
	Railway links	CG	CG	CG	CG	LG/CG	LG/CG	LG/CG	Others	CG	TFR
	Inland Waterways (if any)	CG	N/A	CG	CG	LG/CG	LG/CG	LG/CG	N/A	CG	N/A
SEZs or logistics region adjacent to container port		Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Cross-subsidization in port construction/ development		Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Government intervention in terminal operations		M	Yes	M	M	M	Yes	Yes	No	M	M

Source: Adapted from Lee & Flynn (2011) – authors have compiled and added the case of South Africa

Notes: CG (central government); LG (local government); PA (port authority); TO (terminal operator); M (partly middle position); TFR (Transnet Freight Rail); DOT (Department of Transport - a central government arm); TPT (Transnet Port Terminal - a public TO)

Regarding investment in ports, maritime access infrastructure is handled by central government in ports such as Korea's Busan and Gwangyang; Singapore; Malaysia's Tanjung Pelepas; and China's Shanghai, Waigaoqiao and Yangshan. In Hong Kong's port, however, which is now part of mainland China, maritime access infrastructure is handled by local government (Lee & Flynn, 2011). The reason for this is that Hong Kong is seen as a special administrative region, which means that it is treated as a separate country from an immigration standpoint and continues to circulate its own currency, the Hong Kong Dollar. Hong Kong also retains an independent legal and judicial system inherited from the previous British rulers. Therefore, what would have been the central government is now seen as local government (Mayer, 2012). Hong Kong, therefore, remains a free market economy with container terminals owned and operated by private enterprises. Cargo handling and terminal charges are set by operators and shipping lines themselves and, according to the port benchmarking study conducted by the Marine Department's Planning, Development and Port Security Branch (Planning, 2006), empirical evidence shows that these charges have been declining over the years. Furthermore, Hong Kong remains one of the lowest cost ports in the world, and it is very efficient in its goods handling capacity – achieving 36 moves per hour (MPH) with a peak rate of 40 MPH, while most globally competitive ports are able to achieve only 30 MPH at best (Planning, 2006).

Noteworthy also is that Hong Kong, while being part of mainland China and being in the Far East, part of its port infrastructure is invested in by terminal operators – as is all of its port superstructure – with land access infrastructure being provided by local governments and others (Lee & Flynn, 2011). Hong Kong's port has no central government intervention to cross-subsidise port development and construction, it has no special economic zones (SEZs) close by and government has no intervention in terminal operations (Lee & Flynn, 2011).

In the arrangement we see above, notwithstanding the multidimensional role of government in most ports, the landlord model, as highly recommended by the World Bank's toolkit (2001), is still primarily implemented with the government and the port authority investing mostly in port infrastructure and maritime access infrastructure, while terminal operators are private companies which mostly invest in port superstructure.

Lee and Flynn (2011) argue that they are not prescribing a government-founded and government-owned approach to port policy making as a pillar, but that it should be used until the port is strong enough to stand on its own as a global competitor – the classical infant industry argument. This shows that heavy government involvement is mainly a strategic tool to create hub ports and give them a strong foundation upon which they can become self-sustaining in a globally competitive environment. One of the ways to encourage an environment conducive to creation of hub ports is through strategic port pricing, which includes administered pricing. Administered prices are not a phenomenon unique to ports, but are prevalent in the entire Chinese economy.

Of all the tenets of the Asian doctrine, there are some similarities with South Africa's port policies in that SEZs are increasing, tariff determination is heavily controlled, albeit by TNPA and the Ports Regulator. Furthermore, there is competition between private terminal operators, but TPT, as a public terminal operator, handles a significant share of break-bulk cargo and has a monopoly on containerised and automotive RoRo cargoes.

Central government is heavily involved in ports under the Asian doctrine with the objective of aiding them in becoming hub ports and to eventually compete in the global environment. In South Africa, however, TPT as an SOE appears to compete against the private sector. The main difference, and by far the biggest cited by TNPA, is that in other ports, central government is responsible for investing in marine infrastructure.

According to TNPA, if government were to fund port infrastructure, 67% of all total assets would be covered (TNPA, 2012). Another difference is that ports under the Asian doctrine are competitive, management thereof is coordinated with hinterland economic policies, and the user-pays principle is relaxed on account of welfare benefits of the port.

In exploring the merits of the Asian doctrine, Yeo (2010) shows that competition among Asian ports is increasingly fierce, with seven of the 10 largest container terminals in the world being in Asia. Previously, ports have been viewed as monopolies because of their immovable nature and the concentration of cargoes in their locations. However, rapid development and adoption of container and other intermodal technology has altered this structure of markets to that in which fierce competition prevails across the world (Yeo, 2010). 'Outside Asia, only Dubai and Rotterdam are ranked among the top 10 container ports in terms of container throughput. As well, six out of the 10 ports are in China, while Singapore, Hong Kong and Busan are ranked in the top 5' (Hoshino, 2010:2). This confirms the well-known principle in economics that competition encourages efficiency and effectiveness. As a result, it is known that the cheapest, yet most productive, ports are found in the Far East (Planning, 2006). Although this is generally believed in the case of private enterprise, what is seen in Far Eastern ports is that central government is heavily involved in multiple roles without running the ports as one system, thus still leaving room for competition across ports (Lee & Flynn, 2011).

Bandara, Nguyen and Chen (2013) acknowledge that for most ports (landlord ports) infrastructure is handled by the state sector and it is often regarded as public goods and therefore their charges necessarily take into account the social welfare effect (Bandara et al., 2013). If TNPA is aspiring to be a landlord port then government must be willing, as part of its state budget and the belief that ports are a strategic national asset, to finance some of its infrastructure – even as a way of ensuring increased competitiveness by way of decreased costs. This is in line with global best practice. If government were to fund port infrastructure, 67% of total assets would be covered according to TNPA (2012) – such a fact is so important it warrants a detailed study on port governance beyond this paper.

3. RESEARCH METHODOLOGY

Due to the exploratory nature of this study, the authors have leaned more towards the qualitative research method. The objectives of the study are to determine the reforms necessary to improve South Africa's port governance and port pricing. The variables in assessing current governance include the philosophy that underpins the prevailing port doctrine, government objectives and economic policies, none of which can be quantified with any objective measures. Pricing in ports around the world is not a pure science as it is often unique and bends to the will of the port authorities and the arms of government involved in its determination. Thus there seems to be a limited scope for quantitative enquiry. A qualitative technique called content analysis has been used. Content analysis is a qualitative data analysis tool that involves dissecting the content of an interview, magazine, book or a document with the aim of identifying themes that emerge from responses given by respondents. 'Content analysis is qualitative analysis concerned mostly with the general import or message of the existing documentary materials which are either verbal or written' (Kothari, 2004:110). Clarke (2005) refers to content analysis as a positivistic attempt to identify subjective meaning in the cultural domain. The steps in this process are identifying the main themes, assigning codes to the main themes, classifying those responses under the main themes and finally integrating those themes into the text of one's study. As a qualitative tool used

to determine the general import or message of existing documents, the difference is like that between a casual and an in-depth interview, as the most dominant themes are likely to come into sharper focus when this tool is applied (Good & Douglas, 1954).

For the updated stakeholders' perspectives, the data was received from the public domain, mainly from the Ports Regulator of South Africa and TNPA. Content analysis was used to assess 18 various stakeholders' submissions regarding the 2013-2014 TNPA tariff application, 15 stakeholders' submissions regarding the multi-year tariff application for the tariff years 2013/14-2014/15, and 16 further submissions regarding the 2014-2015 tariff application were analysed. Submissions varied in length, with some being as short as one page and others up to 121 pages in length. The validity of the data collected in this study is dependent on the perspectives of all the members involved in the stakeholders' submissions, which have been published at least since 2009 by the Ports Regulator and prove to represent well the population of relevant participants in South Africa's ports system. It is therefore expected, based on the consistency of their professional comments on the issues of pricing and governance in South African ports, that the data collected through their submissions corroborates what they have published on the Ports Regulator's website in the past years. The submissions capture well the types of stakeholders represented in the ports, as these fall into three major categories, namely: the cargo owners, shipping agents and shipping lines, and tenants.

In conducting content analysis on the various submissions by stakeholders, themes were extracted and classified in a tabular format and the various stakeholders who raised such themes were tabulated according to the various tariff years in which they raised those themes. A salient observation is that while from year to year there would be variations in submissions that were made by the same stakeholders, that theme which did not appear to be adequately addressed in the previous tariff year would be reiterated the following year with various magnitudes of vehemence.

4. FINDINGS

4.1 On Stakeholders' Comments on Port Governance and TNPA

The stakeholders' concerns, views and recommendations are presented within this section with respect to port governance. Themes were extracted from annual submissions by various stakeholders to the Ports Regulator of South Africa in line with the South African port policies, legislation and regulatory requirements. TNPA submits a proposal on an annual basis to adjust the tariffs. The Ports Regulator then invites various stakeholders to comment. From these comments it makes an informed decision, partly guided by the Records of Decision and the National Ports Act.

TABLE 4 shows the findings from the data gathered, summarising the themes on port governance and pricing.

Many of the foregoing issues, complaints and concerns are rooted in the manner in which the ports are governed. For example, port stakeholders express dissatisfaction with the pricing methodology. Stakeholders have complaints about the tariff structure and the manner in which port costs are recovered from them.

TABLE 4: Themes on Port Governance and TNPA Pricing

	Themes on Port Governance: Submissions on the following review periods				
Requested Tariff Increase	*Frequencies*	*18.06%*	*13.2%*	*14.39%*	*Total*
Allowed Tariff Increase		2.76%	0%	8.15%[1]	
				5.9%[2]	
Theme	2009/10-2011/12	2012/13	2013/14	2014/15	
Current structure inhibits global competitiveness of ports, and high port tariffs hinder stakeholders' profitability	38	7	31	10	58
Revenue Requirement Model is unjustifiable and arbitrary	36	4	5	8	53
Misalignments with international tariff standards and inconsistent pricing of some port commodities – User-pays principle is preached but not practiced	13	8	6	8	35
Inefficiency and low productivity of ports	13	13	4	1	31
No accounting for prevailing economic conditions	24	3	2	1	30
Above-inflation increases requested annually	15	7	1	3	26
WACC, MRP and betas used to assess risk are all inaccurate		4	10	11	24
Non-compliance with national policies and inconsistency	13	3	1	3	20
Lack of transparency in reporting or justifying tariffs	10	1	2	5	18
TNPA practices do not support job creation	9	5	1	2	17
Regulatory Asset Base is not cleaned up and it is overvalued	-		3	6	9
Abuse of monopoly power	8	-	-	1	9
Poor service delivery	4	-	-	1	5
Ports as national asset are used for profiting, not national economic objectives	-	-	2	2	4
Projects from previous financial year are seldom complete	-	3	1	-	4
Lack of consultation with industry prior to altering tariffs	-	2	1	-	3
Transition from TNPA to NPA (Pty) Ltd is still pending	-	-	2	1	3

Source: Authors compiled and analysed using data from Gumede (2013) and Stakeholders' Submissions from the Ports Regulator (2014)

Note 1: The 8.15% allowed tariff increase was for bulk and break-bulk commodities.

Note 2: The 5.9% allowed increase was for every other commodity.

South Africa's practice of running a complementary ports system and system-wide pricing has led to a "one size fits all" method of pricing that has made port tariffs rather arbitrary and conducive to inter-port and intermodal cross-subsidisation. Competition has been stifled and stakeholders' competitiveness in the export markets has been undermined and their profitability threatened, while there has been reports of lost traffic, diverted from South African ports to others in the Sub-Saharan African region (City of Cape Town, 2013).

4.2 On Required Revenue Methodology and Tariff Structure and their effect on Port Governance

South Africa's port governance has a direct bearing on the type and amount of tariffs charged for port infrastructure and services. With the establishment of the independent Ports Regulator of South Africa in 2005, there has been regulation, using the RR methodology, of tariff increases granted to TNPA annually. The Regulator has provisionally allowed the application of the RR method, which is currently under review.

Of the much dissatisfaction concerning the tariff structure by TNPA, the most disconcerting, with 58 complaints since 2009, is that South Africa's export competitiveness is being undermined in international markets. The current tariff structure inhibits competitiveness of ports, as it thwarts SA companies' profitability, in addition to hampering global competitiveness. Anglo American (2012) warns that South Africa is at risk of becoming an uncompetitive alternative for many countries due to unsubstantiated commodity tariff increases.

Since 2009, there have been 53 complaints that the RR model appears to not incentivise the organisation to critically look at improving its operational performance and thus reduce the need to apply for such large annual tariff adjustments. If South Africa were in a more competitive geographic region, it is suspected that the ports would make significant expenditure losses, as the pricing methodology would result in their failure to attract additional traffic.

The next most frequently cited concern is the misalignment of South African tariffs with international standards. Thirty-five times it is argued that the user-pays principle is claimed to be implemented but seldom do port users actually see its implementation. On this critical issue, it is the authors' view that the user-pays principle is least compatible with the country's policy objectives, despite it being one of TNPA's tariff structure design principles, for two principal reasons. Firstly, the user-pays principle is more compatible with competitive regimes where costs are not arbitrarily determined and in perfect landlord models where clearer lines of responsibility exist. South Africa is not compatible in this regard and shall never be as long as the RR strategy remains, as it thwarts competition.

Secondly, the South African port system is complementary rather than competitive and therefore is, by definition, characterised by central coordination, which may inadvertently include price manipulation with the aim of achieving national policy objectives. This is more so because ports are seen as a growth engine in the country rather than independent profit-making enterprises that must 'stand on their own bottom' (Bennathan & Walters, 1979). In this dilemma what is seen is incongruity between the political objectives for ports and the ideals TNPA aspires to. This is a core issue of port governance.

It is unlikely that South Africa can achieve its potential to develop hub ports despite the popularity of the Port of Durban as Africa's biggest container port (Transnet, 2014) especially because of the user-pays principle that TNPA wants to enforce. The view of this study is that not

even the European doctrine is adequate for a developmental state to achieve its objectives. This is seen by the ports under this type of governance not doing as well as the Far Eastern ports, which are governed and operated differently. Lee and Lee (2010) argue that the uncompromising adherence to the user-pays principle by the UK ports is a contributing factor to their inability to create more hub ports in the recent decades and thus be superseded by the Far East.

4.3 On Ports Performance

At 31 complaints, it is frequently pointed out that South African ports are among the most inefficient and least productive in the world. They are among the most expensive ports in the world, yet are often on par with the third world in terms of performance and, at that, the worst performing. In a port benchmarking study conducted by Maersk Lines and Safmarine, it was shown that three South African ports (Durban, Cape Town and Port Elizabeth), while being among the least productive, were the top three most expensive ports in the study (Ports Regulator, 2012).

The study done by the Organization for Economic Cooperation and Development (OECD) (2014) on the competitiveness of ports in emerging markets shows that from 2001-2007, average ship waiting hours in the Port of Durban, now Africa's leading container port, increased from 26.14 to 55.14. This, one might add, is due to the increases in demand for its services without commensurate investments in its capacity, which contributed to congestion – a problem that persists even today. As of 2012-13 the average turnaround time was 60.4 hours, with a median value around 56 hours (standard deviation of 30 hours), with many ships having a turnaround time above 70 hours. The average dwell time for all container flows is currently about 3.9 days and this is considered the most efficient in Sub-Saharan African ports, where the average dwell time may easily be twice this figure (OECD, 2014).

The terminal operations' performance has shown the Port of Durban to be relatively constant at 20 moves per hour per crane in 2013. This is certainly an improvement for a container port that is not concessioned, from 15 moves per crane hour in 2008. Nevertheless, the target for 2014/2015 is 28 moves for Durban Container Terminal 1 (DCT1) and 30 moves for DCT2 (OECD, 2014).

Another complaint is that TNPA takes no cognisance of the prevailing local and global economic conditions in applying for tariff increases. This complaint can be paired with another similar-natured one in which stakeholders bemoan the above-inflation tariff increases that are requested annually. The proposed increases are said to hamper economic growth and development. Business Unity South Africa (2012) therefore opposes them. The South African Shippers Council (SASC) (2012) states that TNPA is being short-sighted by not taking into consideration supply chain partners when contemplating rate increases. The National Association for Automobile Manufacturers in South Africa (2012) and Richards Bay Coal Terminal (2013) are of the same voice when they say the National Ports Act recognises a tariff system that is affordable and efficient, that stimulates competition, equitable access and international trade with the fundamental goal of striving towards economic growth and development of South Africa. The prevailing port governance leads to some form of cross-subsidisation that may result in the collapse of certain sectors and the development of some at the expense of others. TNPA does not consider the port-specific concept that demands each port to be priced differently from other ports.

4.4 On Port Governance in South Africa

Stakeholder demands for corporatisation of TNPA are gaining momentum. Of the many themes that came out of the data gathered and analysed for this paper, SASC (2012) states that most

complaints revolve around TNPA still operating above commercial laws and accountability – this is where almost all the problems and complaints by various stakeholders emanate (See TABLE 4). It is no surprise that the least visited fact regarding the regulation of Transnet and, indeed, TNPA, is that the National Ports Act makes a provision that TNPA should be corporatised. Transnet has not, to date, started transitioning the TNPA to the National Ports Authority (Pty) Ltd as stated in section 27(1)(a) of the National Ports Act (2005). It is recommended by SASC (2012) that this provision by the Act be quickly enforced, so as to make TNPA more accountable in the future, and also that TNPA be put on a level playing field with other players, such as cargo owners and service providers.

With the corporatisation of TNPA, and its subjection to normal private company environments, when it comes to costs and price determination there would certainly be an end to the RR methodology, and therefore less room for TNPA to make supernormal profits for Transnet. TNPA, as an enterprise, should facilitate the development of trade and commerce for the national economy's benefit. It is, furthermore, an entity that did not acquire its current infrastructure via a commercial sale that justifies such a profit-oriented revenue approach and cross-subsidisation.

On the one hand, SOEs have historically been significant contributors to the country's economic growth and determinants of its development trajectory as early as the 1700s (Fourie, 2014). This became more pronounced from the 1920s as the government increasingly played the role of entrepreneur by establishing, among several other enterprises, Eskom, Iscor, South African National Roads Services, South African Airways, and the South African Post Office – all of which are financially struggling today (Fourie, 2014). Presently, SOEs 'are viewed explicitly as vehicles for socio-economic development ... and we have to ensure that there is alignment between their national interest and commercial interest mandates' (Gigaba, in SabinetLaw, 2010: 1). Hence one may argue that, preceded by adherence to the Asian doctrine, it would be preferable to operate South African ports according to sound (corporate) business principles because then they would be in a better position to compete internationally. In other words, prior to the corporatisation of South African ports, there may be merit to first adapting and implementing the principles demonstrated in the Asian doctrine. This stance is evidenced by the consequences of the Asian doctrine on the Far East Asian economies. On the other hand, with non-performing SOEs needing a rescue package extended to them totalling R460 billion (Donnelly, 2015), rising debt to GDP levels and the threat of a downgrade of South Africa's sovereign credit rating, one may argue against increasing central government involvement in the national ports system.

It is understood that, according to the country's developmental goals, SOEs are supposed to be instrumental in the development and growth of South Africa's economy. The currently floundering SOEs, however, cast a shadow of doubt upon the idea of the South African central government's capability to run its enterprises and also upon the economy's financial muscle for two reasons. Firstly, to involve the state any deeper in the affairs of TNPA to, for example, finance its entire seaside operations (the 67% of TNPA's costs) is to entrust, into an already struggling institution, more responsibility. Secondly, with some R460 billion that's earmarked to rescue the loss-making SOEs causing a further increase in the public debt, it can be argued that a move to increase the state's role in TNPA would result in the polar opposite of what the government is planning to achieve with SOEs – which is to have them as key role players for South Africa's economic growth and development.

5. CONCLUSION

With all the managerial and fiscal constraints considered, the adaptation and adoption of the principles of the Asian doctrine for SA's ports may prove premature. At the same time, however, the corporatisation of TNPA presently appears to be against the government's developmental objectives and macroeconomic strategy. Nevertheless, the demand for reform in SA's ports is still as potent as ever, because TNPA's ideal principles of user-pays and of competitiveness are still not being realised despite the articulation of its strategic objective to ensure competitiveness of ports. What this is communicating is that SA's ports simply cannot find a perfect fit into the already established port paradigms such as the Anglo-Saxon, Continental or Asian doctrine. Therefore, South Africa must find a way of articulating its own port doctrine, and this is an area for further research.

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